Open File Report OF86-2

Till Geochemistry of the Minton Lake–Nickel Lake Area (Agassiz Metallotect), Lynn Lake, Manitoba

By E. Nielsen and M.A.F. Fedikow

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Energy and Mines
Geological Services

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Energy and Mines

Hon. Wilson D. Parasiuk
Minister

Charles S. Kang
Deputy Minister

Geological Services
W. David McRitchie
Director

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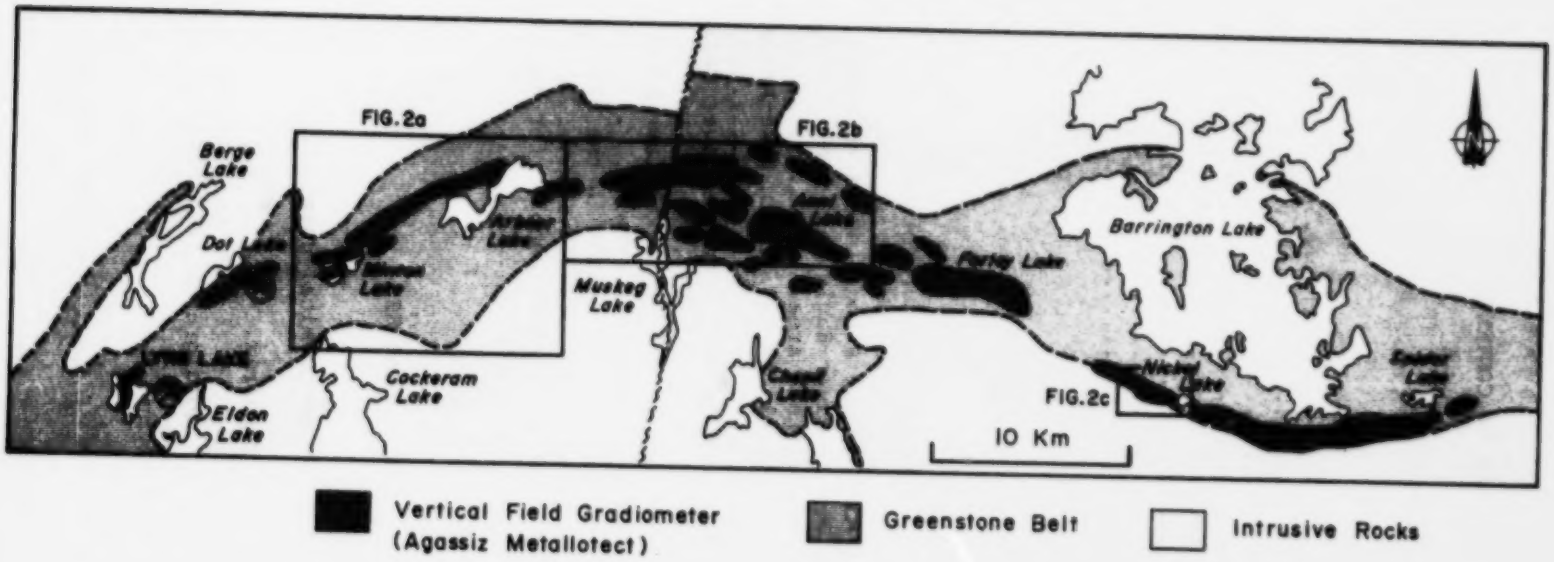


Figure 1: Location map and gradiometric signature of the Agassiz Metallotect.

INTRODUCTION

A detailed till sampling program around known mineral occurrences began in 1982 as part of the joint Canada-Manitoba Interim Mineral Development Agreement. One of the areas studied in detail was the Agassiz Metallotect extending east from the MacLellan Mine (Agassiz deposit) to Nickel Lake (Fig. 1). The primary objective of the till sampling was to map till geochemical anomalies in this area of little outcrop to aid mineral exploration.

It is the purpose of this report to present the geochemical data and the preliminary interpretations of the trace element geochemistry on the till samples from this region. No attempt has been made to contour the geochemical data, and interpretation is kept to a minimum as the pebble counts and the mineralogical, textural, and geochemical analyses are incomplete.

BEDROCK GEOLOGY

The Minton Lake-Nickel Lake area is part of the northern belt of the Aphebian Lynn Lake greenstone belt. The northern belt comprises a monoclinal sequence of interlayered Wasekwan Group tholeiitic and high alumina mafic and intermediate volcanic rocks, coarse to fine grained paragneiss, greywacke and conglomerate. A thin but persistent oxide, sulphide and silicate facies iron formation interbedded with a distinctive tholeiitic picrite (Fox and Johnson, 1981) occurs within the stratigraphy east of the Agassiz Au-Ag deposit. This marker sequence, which apparently correlates with the host rocks at the Agassiz deposit to the west (i.e. the Agassiz Metallotect), continues eastward to Nickel Lake and Barrington Lake thickening considerably at Farley Lake.

The volcanic and sedimentary rocks in the Minton Lake-Nickel Lake area have been intruded by small subvolcanic plutons that range in composition from tonalite to diorite. Metamorphism in this portion of the belt attained upper greenschist to middle amphibolite conditions.

SURFICIAL GEOLOGY

The area lies entirely within the area dominated by ice flow from the Keewatin Sector of the Laurentide Ice Sheet. The main ice flow direction ranged between 180° and 225°. It was this ice flow that deposited most of the till exposed at the surface and near surface along the Agassiz Metallotect. A younger ice flow toward the southeast is believed to have been in response to late glacial readjustment of the ice margin during deglaciation. The younger ice flow did not significantly affect the western part of the area. In the Farley Lake-Nickel Lake area, however, the effect of the youngest flow is more pronounced than to the west but it is uncertain what effect, if any, it had on the till provenance.

A detailed description of the surficial sediments in the region is given by Nielsen and Graham (1985).

METHODS

A total of 810 hand-dug holes each about 1 m deep were put down along the Agassiz Metallotect between the Agassiz Au-Ag deposit and Nickel Lake (Figs. 2A, 2B, 2C). The results from an additional 216 holes dug in the Farley Lake area were reported previously (Nielsen and Graham, 1985).

The samples were collected approximately 100 m apart along the vertical field gradiometer anomaly (Barrington Lake area, Questor INPUT Survey Map, 1977) where till outcrops (Figs. 3A, 3B, 3C). Bedrock was reached in 118 holes. Samples consisted of from 5 to 10 kg of grey, generally unoxidized till.

Two fractions, a heavy mineral concentrate with specific gravity greater than 2.96 and a clay sized fraction less than 2 microns in diameter, were separated and submitted for trace element geochemistry (Fig. 4). The clay sized fraction was concentrated from a 500 gm split in the Manitoba Energy and Mines Laboratory in Winnipeg. The heavy mineral concentrates and visible gold grain counts were done under contract to Overburden Drilling Co.

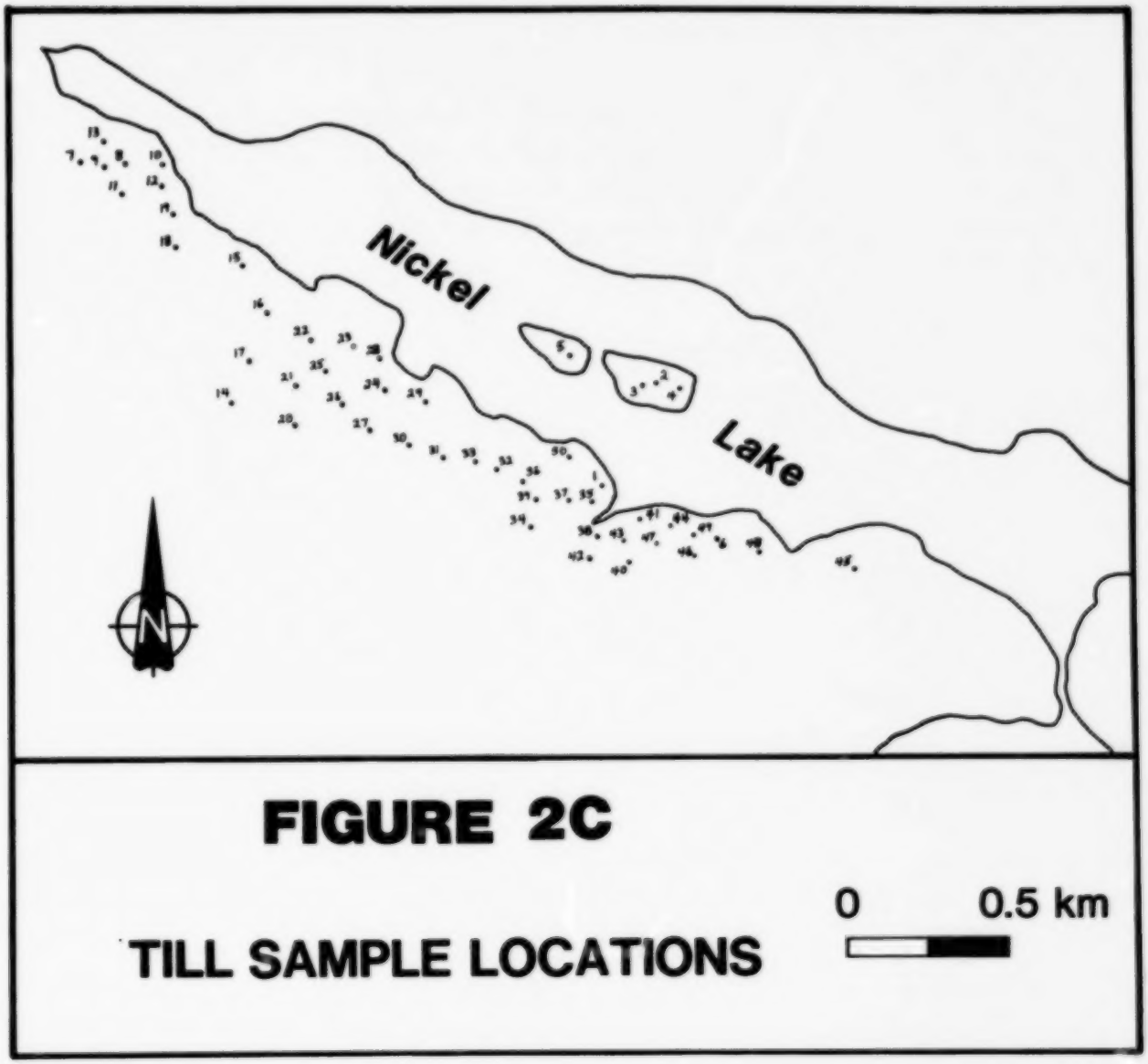


Figure 2C: Till samples in the Nickel Lake area.

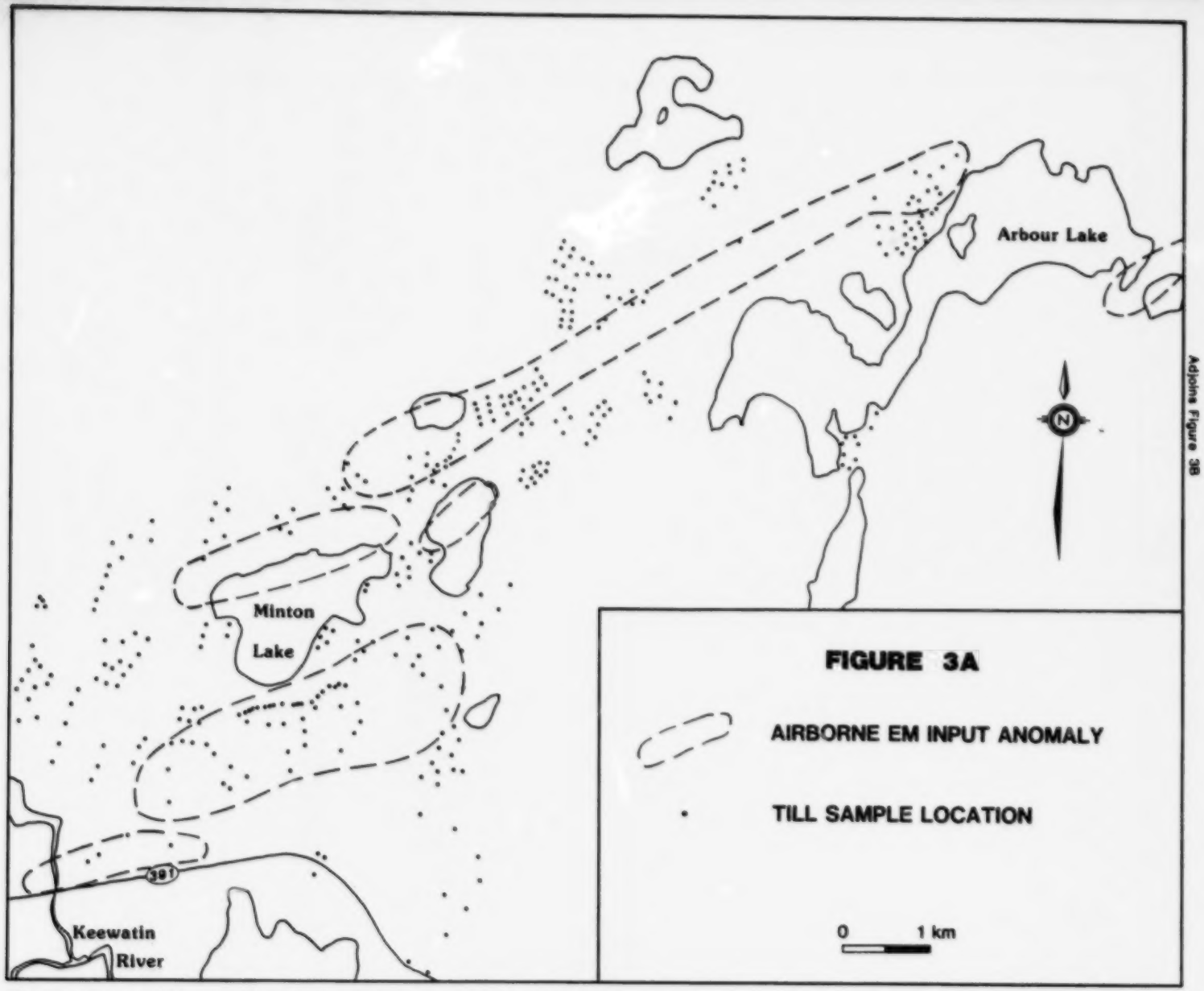


Figure 3A: Till samples and INPUT anomaly in the Minton Lake-Arbour Lake area.

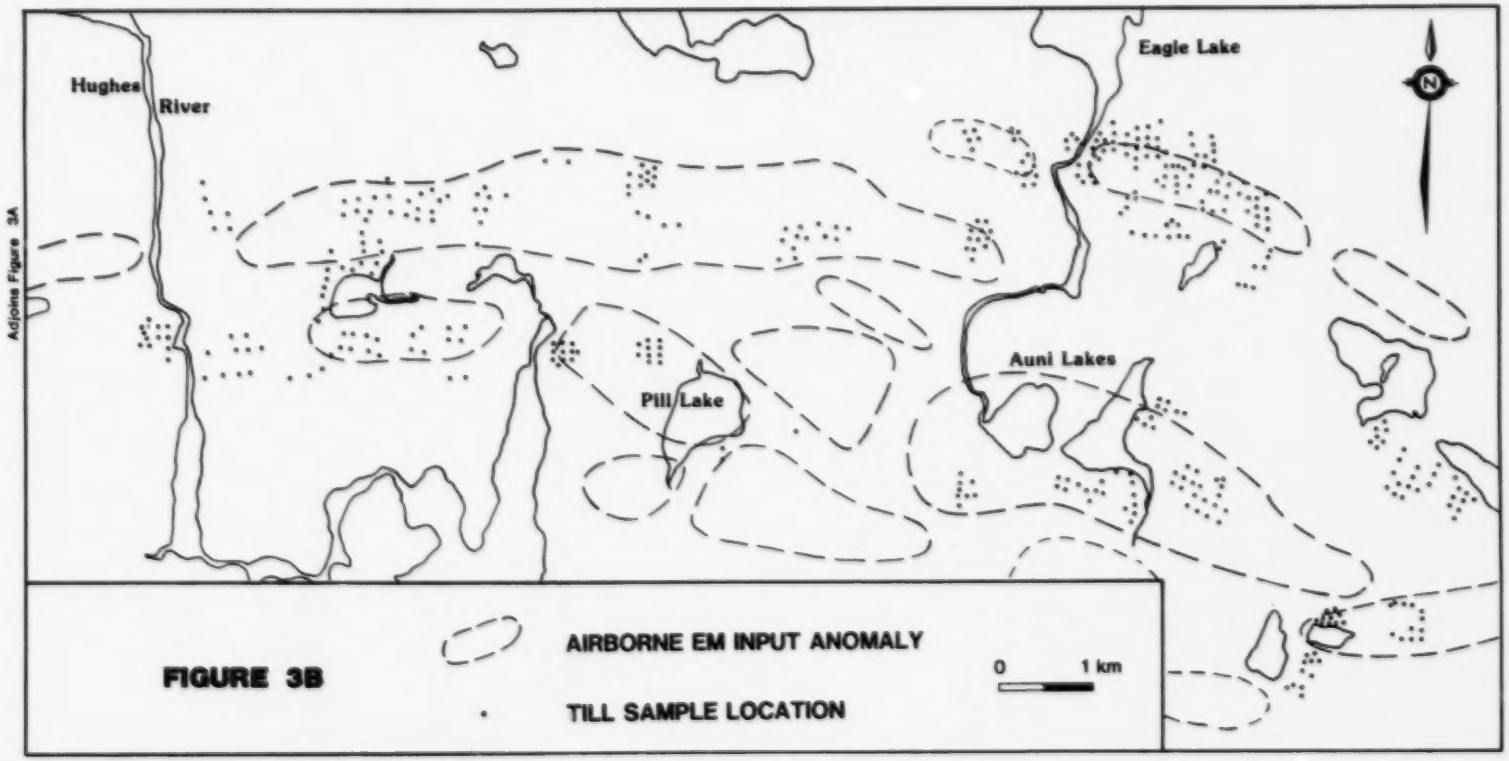


Figure 3B: Till samples and INPUT anomaly in the Hughes River-Eagle Lake area.

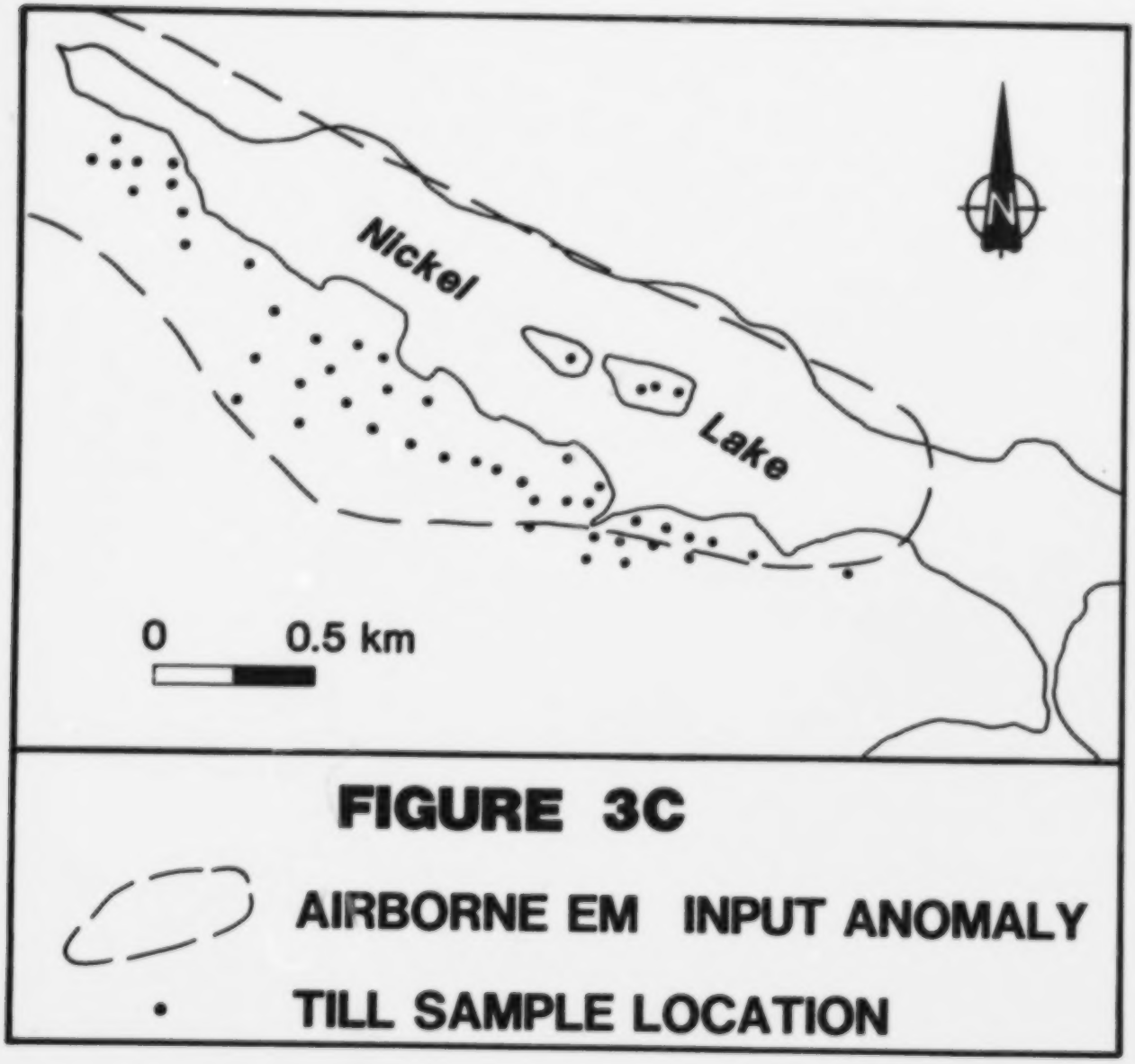


Figure 3C: Till samples and INPUT anomaly in the Nickel Lake area.

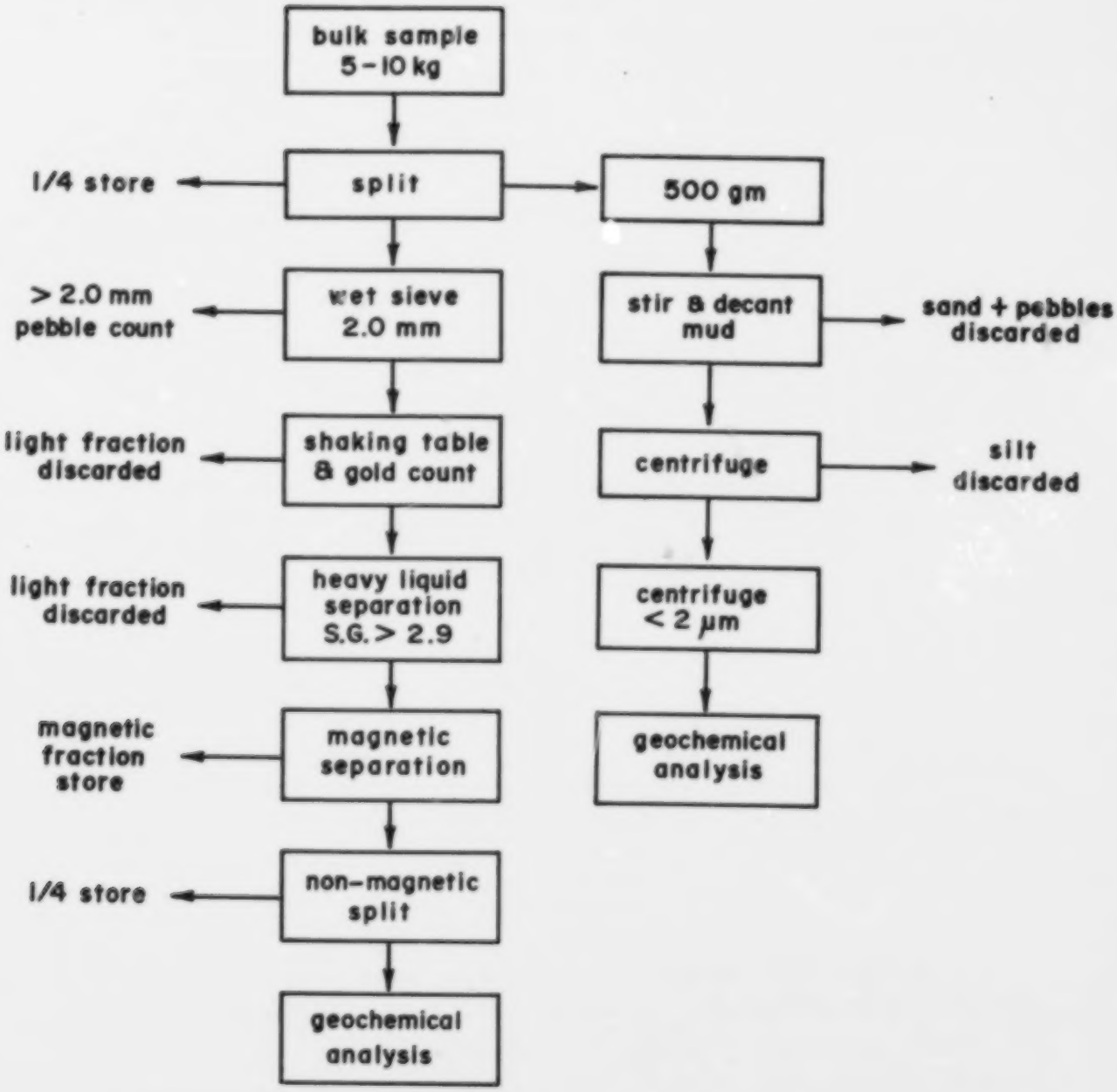


Figure 4: Sample processing flow sheet for till samples.

Ltd. in Ottawa. Gold and arsenic analyses were done under contract to Bondar-Clegg & Co. Ltd. in Ottawa, and the remaining analyses were done in the Manitoba Energy and Mines Analytical Laboratory.

The clay sized fraction of the samples received no prior treatment but the heavy mineral fraction was pulverized to -200 mesh. Cu, Pb, Zn, Ni, Co, Cr, Fe and Mn were analyzed by atomic absorption spectrophotometry after hot nitric-hydrochloric acid extraction. Arsenic was analyzed colorimetrically after nitric-perchloric acid digestion. Gold in the heavy mineral fraction was analyzed by fire assay and atomic absorption using an approximately 20 gm sample.

The lower detection limits for all the elements is 1 or 2 ppm, except Fe and Au which have lower detection limits of 0.1 per cent and 5 ppb, respectively. The lower detection limit of Au was 2 ppb for the samples collected in 1982.

RESULTS

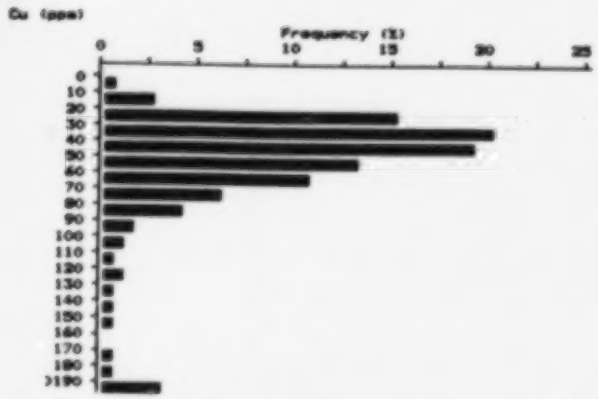
The geochemical data and the gold counts are listed in Appendix I. The frequency distribution of the ten elements is shown in Figure 5 and the summary statistics are listed in Table 1. Threshold values for each element have been determined by plotting cumulative frequency diagrams with a probability scale (Fig. 6).

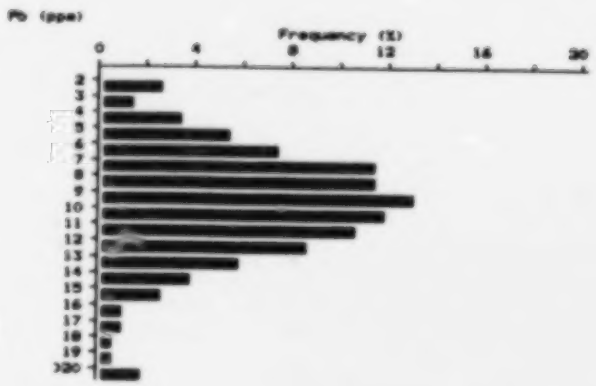
Several multi-sample anomalies with gold values above 15 ppb coincident with visible gold occurrences are found in the area. These areas are locally coincident with high arsenic values in the clay sized fraction although arsenic does not correlate well with gold in the heavy mineral fraction (Table 2). The presence of visible gold in a till sample, as well as the size and physical characteristics of the gold grains in conjunction with geochemical analysis of the heavy mineral fraction, are the best indicators of nearby gold mineralization.

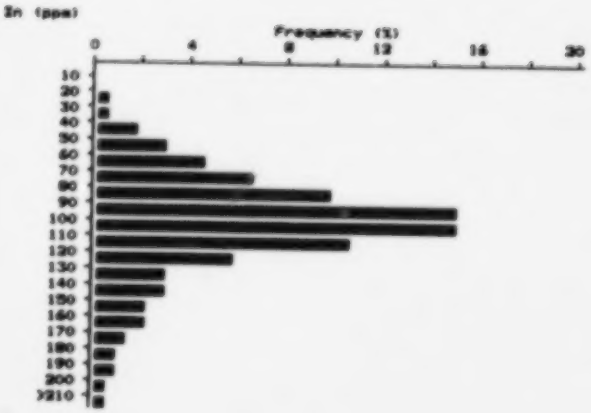
Table 1. Summary statistics for the geological data.

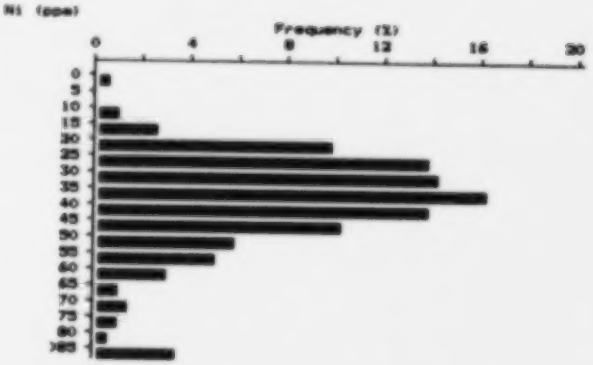
Variable:	Cu	Pb	Zn	Ni	Co	Cr	Fe	Mn	As	Au
Number of observations:	825	825	825	825	825	825	623	825	825	825
Minimum:	3	2	18	2	1	8	8750	30	2	1
Maximum:	550	32	584	540	55	480	75500	894	98	1220
Mean:	57.6	9.4	103.9	41.6	18.5	83.6	45291	442.1	4.9	20.6
Standard error of mean:	1.6	0.1	1.2	1.0	0.2	1.6	444.4	3.7	0.2	2.4
Standard deviation:	47.8	3.7	35.3	28.3	5.8	46.6	11093	107.5	5.9	70.2
Coefficient of variation:	0.829	0.393	0.339	0.680	0.313	0.557	0.244	0.243	1.204	3.407
Skewness:	4.1	1.2	3.6	9.3	1.0	3.4	0.04	-0.04	8.1	9.9
Kurtosis:	24.8	4.6	41.8	137.7	3.8	18.0	-0.6	0.6	96.2	130.7

Note: Au analysis is in ppb and the rest of determinations are in ppm.
Au analysis is on the heavy mineral fraction and all other determinations are on the clay-sized fraction.


Cu (ppm)
Frequency (%)
0 5 10 15 20 25
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
>190


Pb (ppm)
Frequency (%)
0 4 8 12 16 20
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
>20


Zn (ppm)
Frequency (%)
0 4 8 12 16 20
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
>210


Ni (ppm)
Frequency (%)
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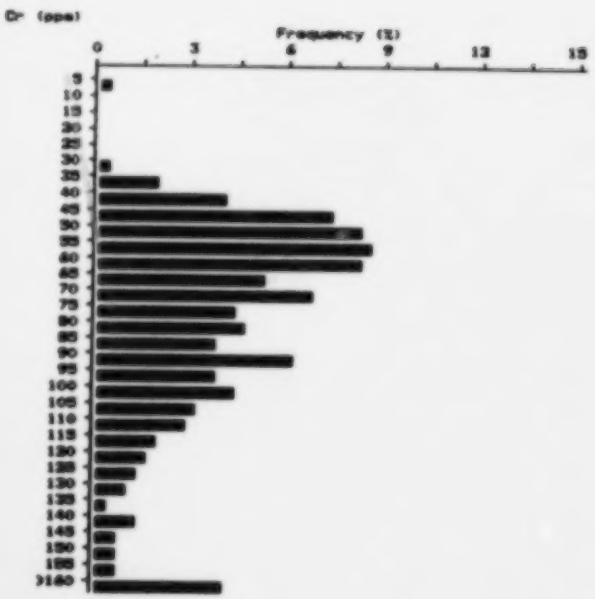
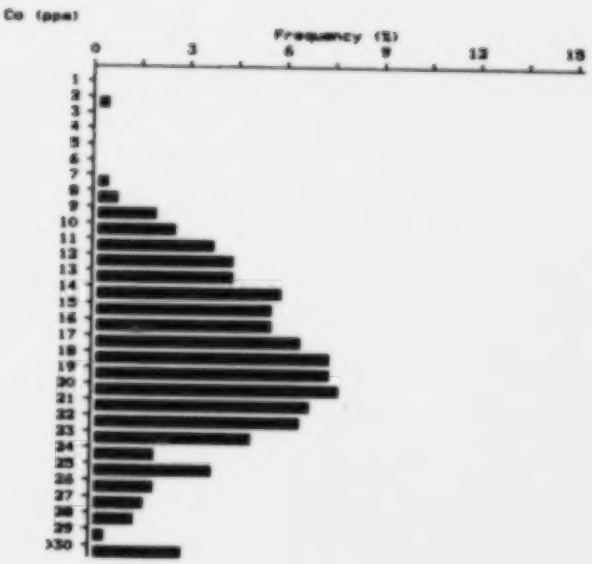
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
>85


Cr (ppm)
Frequency (%)
0 3 6 9 12 15
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
105
110
115
120
125
130
135
140
145
150
155
>160


Co (ppm)
Frequency (%)
0 3 6 9 12 15
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
>30

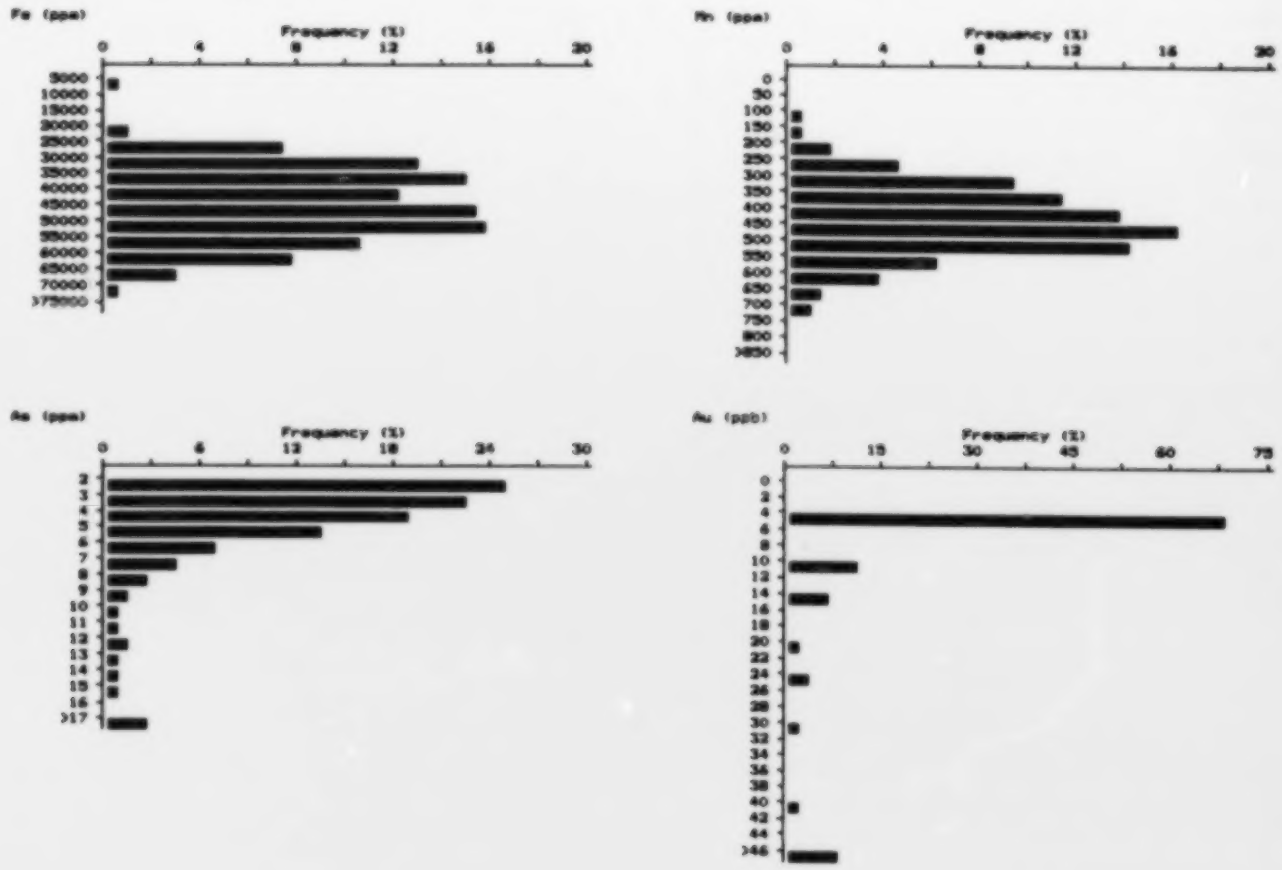
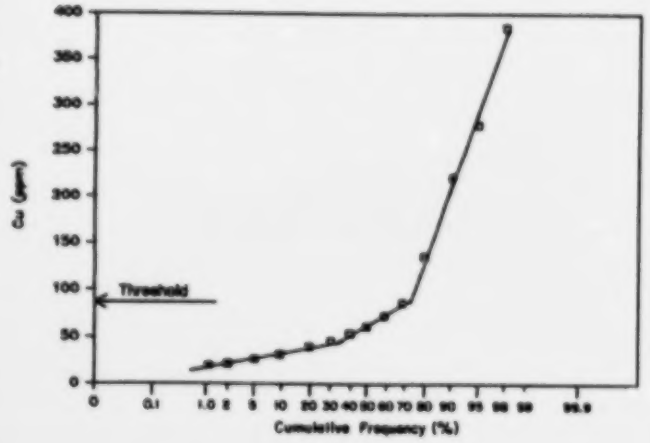
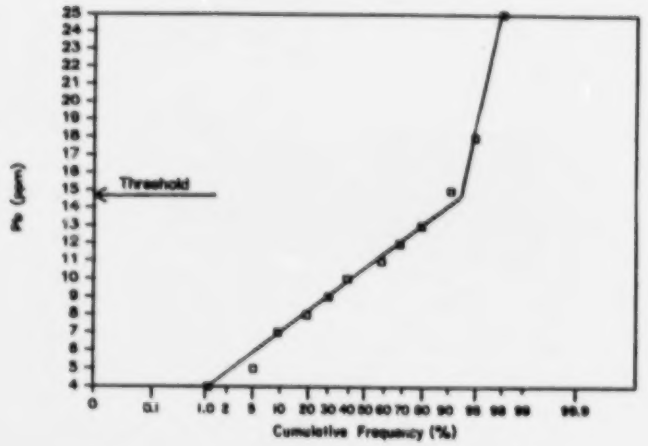
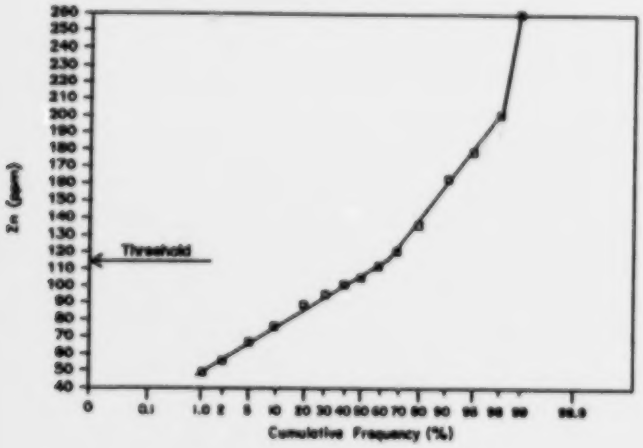
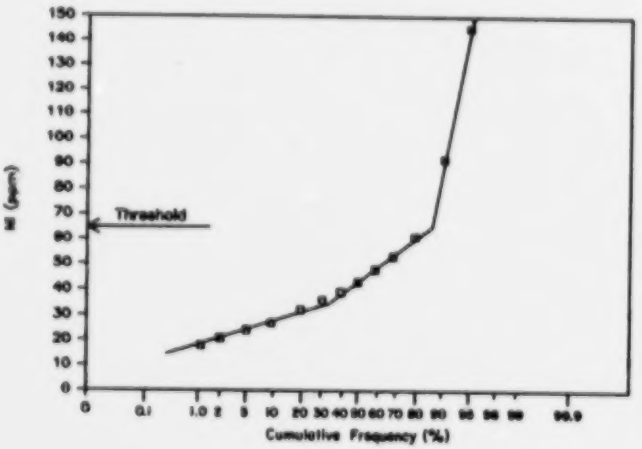


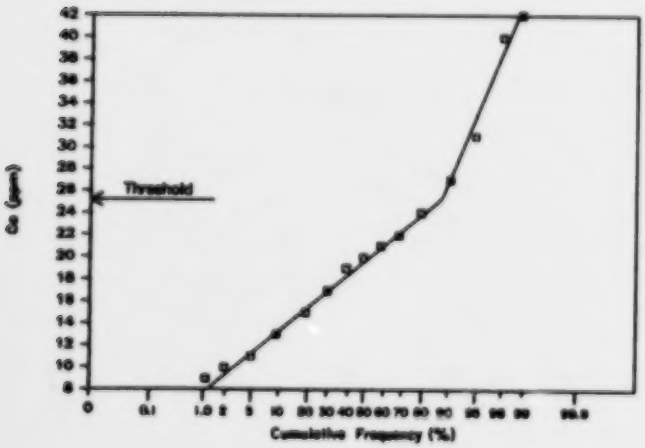
Figure 5. The distribution of element concentration in 825 till samples.

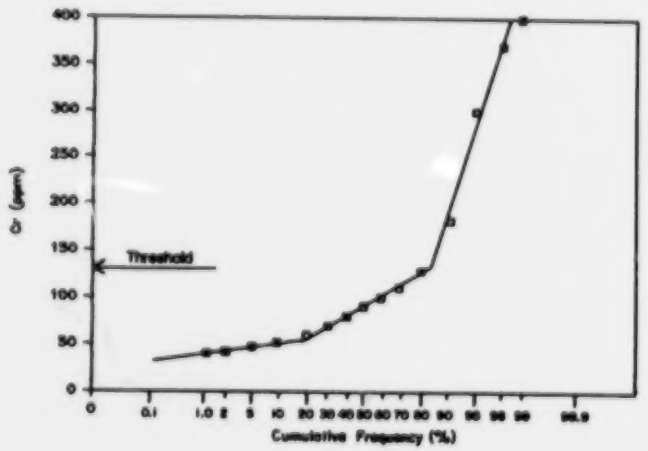

Cu (ppm)
Threshold
Cumulative Frequency (%)


Pb (ppm)
Threshold
Cumulative Frequency (%)


Zn (ppm)
Threshold
Cumulative Frequency (%)


Ni (ppm)
Threshold
Cumulative Frequency (%)


Co (ppm)
Threshold
Cumulative Frequency (%)


Cr (ppm)
Threshold
Cumulative Frequency (%)

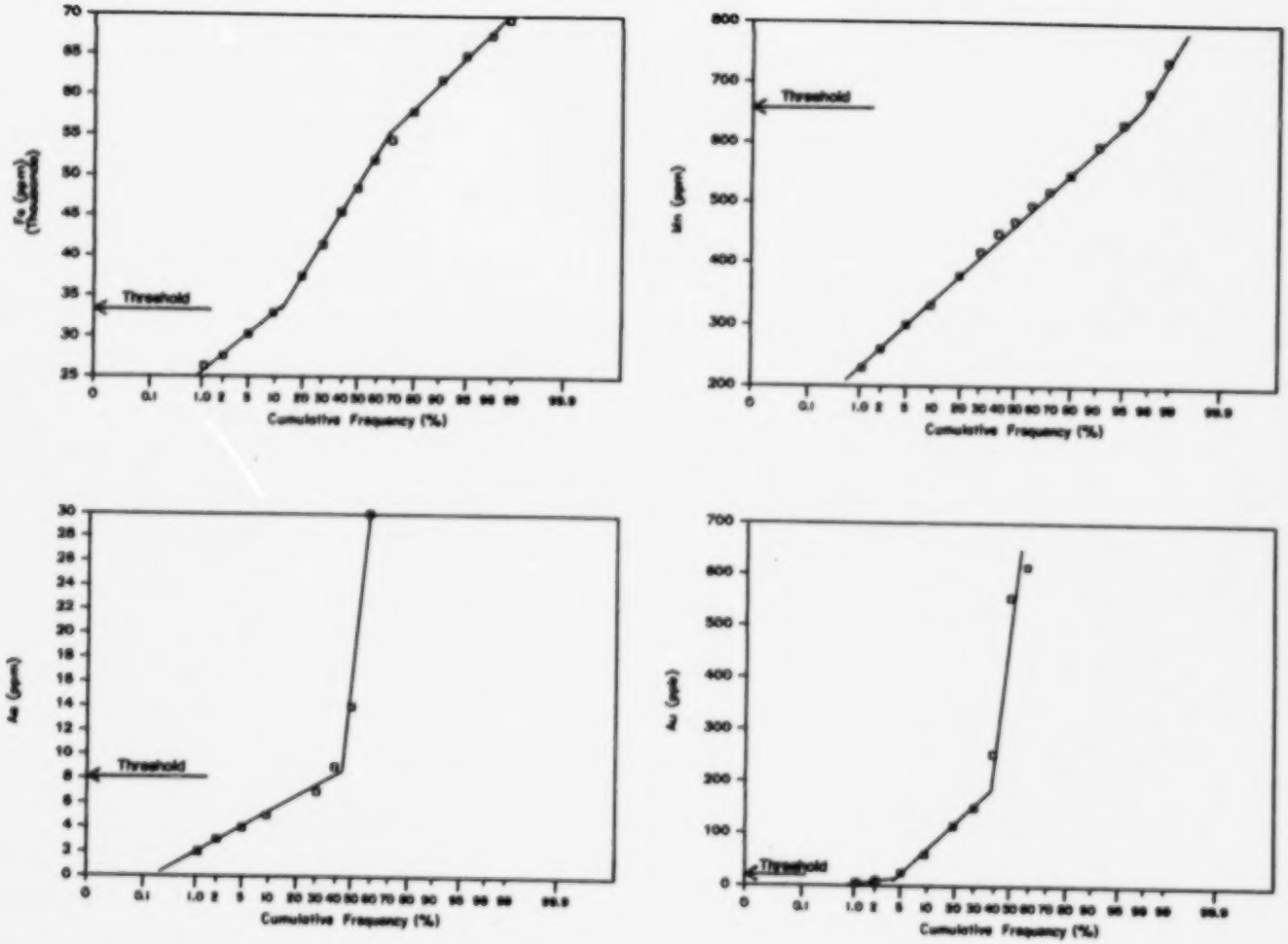


Figure 6. Cumulative frequency plots showing thresholds for each of the ten elements.

TABLE 2. Pearson linear correlation matrix.

	CU	PB	ZN	NI	CO	CR	FE	MN	AS	AU
CU	1.000	-.2801	.2722	.6378	.6155	.7360	.3761	.1082	.5606	-.0233
PB		1.0000	-.1522	-.1636	-.1520	-.3169	-.1892	.0548	-.1691	.0167
ZN			1.0000	.3223	.4872	.4201	.6021	.4329	.1083	-.0130
NI				1.000	.6464	.7443	.3496	.1758	.4235	-.0338
CO					1.000	.7140	.4953	.4817	.3997	-.0370
CR						1.000	.6385	.1599	.5458	-.0259
FE							1.0000	.2890	.2681	-.0318
MN								1.0000	.0280	.0187
AS									1.0000	-.0298
AU										1.0000

DISCUSSION

A glacial dispersion train 1.5 km long has been mapped near Dot Lake west of Keewatin River using arsenic in the clay sized fraction and gold in the heavy mineral fraction. The dispersion train associated with the Agassiz Au-Ag deposit on the east side of the Keewatin River is, however, only about 150 m long (Nielsen, in prep.). The difference in the length of these two dispersion trains is believed to be the result of distinct outcrop patterns of the mineralization with respect to the local topography. The Agassiz mineralization outcrops toward the lee side of a hill and the Dot Lake mineralization outcrops near the crest of a hill. Consequently the Dot Lake mineralization was exposed to glacial erosion whereas the Agassiz mineralization was more protected. The role of the topography is considered an important factor in evaluating dispersion trains and distances of glacial transport along the Agassiz Metallotect.

The 'patchy' nature of gold and arsenic anomalies may be due to sampling from relatively shallow hand-dug holes. Although the till sheet is generally thin, anomalies might be enhanced by sampling directly above the bedrock. For example, in the Nickel Lake area 29 of the 50 holes terminated on bedrock. This is a higher proportion than anywhere to the west and arsenic values are higher in this area than anywhere else. It is not known whether the high arsenic values are related to the shallow drift at Nickel Lake or to higher concentrations of arsenic in the bedrock. Indications at Dot Lake and at the Agassiz deposit are that the sampling depth is not an important variable in delineating the dispersion train.

The visible gold grains are mainly abraded and irregular in shape (Table 3) indicating they have undergone at least some glacial transport. Based on their distribution down ice from the Agassiz and Dot Lake mineralization, visible gold grains do not appear to travel more than a few hundred metres from their source.

Table 3. Characteristics of visible gold grains from till samples.

Sample Number	Dimensions (microns)	Grain shape
A - 2	25 x 25 x 5	Irregular
	150 x 150 x 29	Abraded
	150 x 250 x 38	"
- 17	50 x 50 x 10	"
- 18	25 x 50 x 8	"
- 21	50 x 75 x 13	Irregular
- 27	25 x 50 x 8	"
	75 x 100 x 18	"
- 33	75 x 75 x 15	Abraded
- 34	50 x 75 x 13	Irregular
- 41	50 x 75 x 13	Abraded
- 70	175 x 200 x 36	"
-129	100 x 150 x 25	Delicate
-132	100 x 100 x 20	Abraded
C - 14	250 x 250 x 46	"
- 22	100 x 150 x 25	"
- 70	75 x 125 x 20	"
-132	100 x 125 x 22	"
	125 x 150 x 27	"
	150 x 200 x 34	"
-153	100 x 150 x 25	"
D - 19	125 x 150 x 27	"
- 35	200 x 250 x 42	"
- 39	100 x 150 x 25	"

Sample Number	Dimensions (microns)	Grain shape
D - 129	100 x 150 x 25	Abraded
E - 37	100 x 100 x 20	"
- 52	75 x 100 x 18	"
- 64	25 x 25 x 5	Irregular
	50 x 125 x 18	"
	75 x 100 x 18	Abraded
	75 x 100 x 18	"
	75 x 275 x 34	Irregular
	100 x 125 x 22	"
	125 x 175 x 29	"

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1981: Komatiites, boninites and tholeiitic picrites in the central La Ronge metavolcanic belt, Saskatchewan and Manitoba, and their possible economic significance; Canadian Institute of Mining and Metallurgy Bulletin, v. 74, no. 831, p. 73-82.

Nielsen, E.
in prep: Glacial dispersion from the Agassiz Au-Ag deposit, Lynn Lake, Manitoba; Manitoba Energy and Mines, Open File Report.

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1985: Preliminary results of till petrographical and till geochemical studies at Farley Lake; in Manitoba Energy and Mines, Open File Report OF85-3, 62 p.

Questor
1977: Airborne INPUT survey, Lynn Lake and Barrington Lake areas (Phase I and II); Manitoba Mineral Resources Division, Miscellaneous Publication.

APPENDIX I

Agassiz Metallotect - Raw Data

	< 2 Microns									Heavies	
Sample Number	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Co (ppm)	Cr (ppm)	Fe (ppm)	Mn (ppm)	As (ppm)	Au (ppb)	V.G.*
69-82-1	87	7	167	59	17	71	49000	475	2	2	0
69-82-2	61	6	108	52	20	63	40000	450	2	2	0
69-82-3	90	9	158	54	18	84	53000	515	3	1	0
69-82-4	75	12	118	54	22	73	47000	515	2	1	0
69-82-33	50	12	94	43	20	55	41000	515	3	1	0
69-82-34 A	86	6	169	64	25	84	57000	590	5	1	0
69-82-34 B	159	8	173	68	22	99	67500	525	13	1	0
69-83-1	121	28	127	40	18	65		580	3	10	0
69-83-2	95	17	104	36	21	62		630	3	10	0
69-83-3	79	20	109	33	16	54		600	2	15	0
69-83-4	63	16	91	34	16	88		520	3	10	0
69-83-5	64	12	93	26	15	69		600	2	5	0
69-83-6	52	12	59	30	13	47		350	3	5	0
69-83-7	35	11	58	31	14	46		280	2	10	0
69-83-8	27	9	71	21	12	47		420	2	5	0
69-83-9	83	11	112	35	21	67		620	4	10	0
69-83-56	51	15	110	34	15	66		565	3	5	0
69-83-57	22	17	65	20	13	39		440	2	5	0
69-83-58	27	18	63	20	10	41		320	2	5	0
69-83-59	27	13	67	24	15	45		410	2	5	0
69-83-60	47	19	91	33	19	50		480	3	5	0
69-83-61	28	15	69	29	20	50		720	3	15	0
69-83-62	32	16	81	35	18	60		550	4	10	0
69-83-63	23	14	65	23	12	52		390	4	5	0
69-83-64	31	13	74	30	16	57		600	2	5	0
69-83-65	29	11	92	27	12	58		410	3	25	0
69-83-66	46	13	93	28	13	53		450	2	5	0
69-83-67	39	13	80	30	15	56		460	3	15	0
69-83-68	65	13	82	38	19	72		460	2	5	0
69-83-69	40	10	60	21	14	43		480	2	5	0
69-83-70	34	12	52	26	14	55		300	2	5	0
69-83-71	65	9	108	30	14	58		480	2	5	0
69-83-72	35	13	71	24	12	44		460	3	5	0
69-83-73	35	14	82	27	17	59		510	4	5	0
69-83-74	38	11	73	28	16	53		400	4	5	0
69-83-75	27	14	65	24	17	44		470	2	5	0
69-83-76	32	11	69	41	21	60		420	3	5	0
69-83-77	34	12	60	38	15	73		380	3	5	0
69-83-78	31	11	56	24	12	47		320	3	10	0
69-83-79	34	12	54	20	11	45		350	3	5	0
69-83-80	49	15	85	36	20	71		550	6	5	0
69-83-81	54	14	99	34	19	58		580	2	25	0
69-83-82	36	11	63	26	17	47		620	2	5	0
69-83-83	21	8	49	17	13	42		400	2	5	0
69-83-84	30	12	68	24	14	70		510	3	5	0
69-83-85	36	11	95	24	15	52		520	3	10	0

* V.G.: visible gold

	< 2 Microns									Heavies	
Sample Number	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Co (ppm)	Cr (ppm)	Fe (ppm)	Mn (ppm)	As (ppm)	Au (ppb)	V.G.
69-83-86	22	11	56	18	14	39		480	4	5	0
69-83-87	31	10	67	23	16	49		580	2	5	0
69-83-88	29	14	92	22	14	44		580	3	10	0
69-83-89	69	14	127	38	16	68		550	5	5	0
69-83-90	46	9	108	31	14	60		530	3	5	0
69-83-91	45	12	121	29	16	60		570	4	5	0
69-83-92	27	9	68	26	15	45		450	2	5	0
69-83-93	57	11	96	43	20	64		460	2	5	0
69-83-94	39	11	72	31	15	42		340	2	5	0
69-83-95	13	5	23	11	7	16		200	2	5	0
69-83-96	16	7	45	15	12	44		380	32	5	0
69-83-97	31	12	85	33	21	48		660	3	5	0
69-83-98	37	11	88	33	19	50		520	2	5	0
69-83-99	21	12	51	23	18	35		490	2	5	0
69-83-100	52	15	84	43	18	49		460	2	5	0
69-83-101	37	11	71	34	21	46		550	2	5	0
69-83-102	42	15	74	28	16	62		580	4	5	0
69-83-103	24	8	70	29	16	59		450	2	5	0
69-83-104	33	11	55	26	19	43		630	3	5	0
69-83-105	39	12	73	38	13	60		360	2	5	0
69-83-106	26	11	61	22	16	49		460	3	55	0
69-83-107	24	12	62	21	14	43		480	30	5	0
69-83-108	31	13	43	24	11	70		250	3	5	0
69-83-109	34	9	78	28	15	53		380	4	110	0
69-83-110	31	7	72	22	13	53		500	2	10	0
69-83-111	123	9	135	48	24	45		650	2	5	0
69-83-112	53	9	75	28	18	47		440	2	5	0
69-83-113	42	10	62	25	16	50		480	2	5	0
69-83-114	41	10	77	33	17	64		520	2	5	0
69-83-115	80	12	92	50	19	63		600	3	5	0
69-83-116	22	11	71	21	14	44		520	3	5	0
69-83-117	21	9	55	17	13	35		450	2	5	0
69-83-118	53	9	94	28	15	48		520	2	5	0
69-83-119	24	10	66	24	11	53		420	3	5	0
69-83-120	36	11	80	25	15	53		440	3	5	0
69-83-121	45	9	102	25	12	57		450	2	5	0
69-83-122	19	5	50	13	7	27		240	2	5	0
69-83-123	42	12	81	22	12	46		460	2	5	0
69-83-124	35	12	95	20	11	49		550	2	5	0
69-83-125	55	13	89	29	15	55		540	3	1220	0
69-83-126	55	8	87	26	15	46		520	2	10	0
69-83-127	27	11	78	25	12	55		520	2	5	0
69-83-128	47	12	94	27	17	62		500	4	10	0
69-83-129	30	11	49	16	8	52		175	5	10	0
69-83-130	34	13	93	29	13	62		450	3	5	0
69-83-131	29	12	72	19	10	50		400	2	65	0
69-83-132	72	11	116	26	12	56		540	2	5	0
69-83-133	33	9	62	19	10	37		400	2	5	0
69-83-134	81	10	81	27	18	70		540	4	5	0
69-83-135	38	12	103	27	15	48		540	3	5	0

Sample Number	< 2 Microns Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Co (ppm)	Cr (ppm)	Fe (ppm)	Mn (ppm)	As (ppm)	Heavies Au (ppb)	V.G.
69-83-136	28	11	73	24	12	50		390	2	5	0
69-83-137	43	9	60	18	9	40		300	2	5	0
69-83-138	29	9	56	18	8	45		330	2	5	0
69-83-139	42	10	53	28	10	50		245	3	5	0
69-83-140	45	14	103	33	12	70		500	4	5	0
69-83-141	34	8	47	17	9	44		320	9	65	0
69-83-142 1	8	13	18	8	1	48		30	2	130	0
69-83-142 2	12	23	39	12	4	62		122	3	5	0
69-83-142 3	19	11	48	18	10	54		200	3	5	0
69-83-142 4	25	10	65	21	10	48		310	3	5	0
69-83-142 5	31	11	76	23	12	48		420	2	5	0
69-83-142 6	35	9	78	24	13	46		500	2	5	0
69-83-142 7	39	11	70	26	17	57		600	2	5	0
69-83-142 8	96	16	113	33	14	64		740	3	5	0
69-83-143	24	11	75	22	10	53		480	2	95	0
69-83-144	44	11	72	29	11	63		310	2	15	0
69-83-145	21	11	56	17	10	36		450	2	25	0
69-83-146	30	11	91	19	11	44		500	2	10	0
69-83-147	38	11	91	26	14	58		600	2	5	0
69-83-148	31	14	103	28	12	82		400	4	5	0
69-83-149	14	10	59	20	11	52		520	2	5	0
69-83-150	63	13	98	27	13	63		640	4	5	0
69-83-151	17	9	44	17	10	40		380	2	5	0
69-83-152	31	14	58	21	8	64		260	3	5	0
69-83-153	29	10	67	22	11	48		530	2	20	0
69-83-154	31	13	79	26	15	50		640	2	59	0
69-83-155	18	10	33	12	9	30		350	2	5	0
69-83-156	31	11	84	27	12	52		490	2	10	0
69-83-157	32	12	74	26	14	52		500	2	10	0
69-83-158	27	7	69	24	14	44		500	2	5	0
69-83-159	24	11	68	22	9	48		375	2	5	0
69-83-161	38	9	56	25	11	46		280	2	5	0
69-83-164	45	11	47	28	13	35		520	2	5	0
69-83-165	45	8	65	40	11	52		370	2	5	0
69-83-166	31	8	47	24	8	40		265	2	5	0
69-83-167	40	11	79	29	11	56		360	2	10	0
69-83-169	45	12	114	26	17	52		580	2	10	0
69-83-170	54	10	75	31	13	55		340	2	10	0
69-83-171	46	9	95	24	13	75		550	3	40	0
69-83-172	34	7	63	22	12	46		310	2	5	0
69-83-173	23	10	73	25	14	47		480	2	5	0
69-83-174	56	8	79	28	17	48		520	2	10	0
69-83-175	35	10	72	28	16	50		360	2	10	0
69-83-176	58	13	134	35	15	79		600	4	5	0
69-83-177	19	11	85	17	11	40		420	2	10	0
69-83-178	25	5	55	21	10	48		220	2	20	0
69-83-179	32	10	65	30	12	55		280	2	5	0
69-83-180	26	9	47	20	8	50		190	2	5	0
69-83-181	36	10	56	21	11	37		280	2	5	0
69-83-182	71	7	82	92	17	52		310	2	5	0

	< 2 Microns									Heavies	
Sample Number	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Co (ppm)	Cr (ppm)	Fe (ppm)	Mn (ppm)	As (ppm)	Au (ppb)	V.G.
69-83-183	50	10	33	24	9	66		130	3	5	0
69-83-184	34	12	80	27	17	46		500	2	65	0
69-83-185	34	12	72	29	15	47		440	2	15	0
69-83-186	33	8	71	31	15	50		520	2	30	0
69-83-187	39	8	83	33	11	54		280	3	5	0
69-83-188	24	13	64	21	11	55		320	3	5	0
69-83-189	28	10	52	41	10	55		285	2	20	0
69-83-190	29	8	79	26	11	53		400	2	60	0
69-83-191	14	14	66	21	10	49		280	2	5	0
69-83-192	18	17	77	24	13	60		240	4	5	0
69-83-193	25	12	74	27	13	51		460	2	5	0
69-83-194	17	10	58	19	11	42		380	2	115	0
69-83-195	25	12	66	22	14	64		540	3	150	0
69-83-196	30	7	79	23	11	50		400	2	5	0
69-83-197	42	9	88	29	14	54		520	3	5	0
69-83-198	46	6	46	23	13	35		320	6	5	0
69-83-199	22	13	49	18	13	49		470	2	5	0
69-83-200	25	10	52	21	13	55		320	3	5	0
69-83-201	29	10	53	20	10	42		310	6	5	0
69-83-206	20	9	76	23	14	44		500	2	5	0
69-83-207	28	10	68	29	11	82		340	3	10	0
69-83-208	41	11	58	27	13	45		360	3	5	0
69-83-209	67	14	98	30	16	60		570	3	20	0
69-83-210	15	6	52	22	10	37		320	2	5	0
69-83-211	41	12	118	31	12	69		560	2	5	0
69-83-212	36	12	81	29	12	66		330	2	10	0
69-83-213	46	12	93	32	12	52		370	2	45	0
69-83-214	45	11	103	31	13	60		590	2	5	0
69-83-215	18	13	76	21	10	55		255	2	5	0
69-83-216	37	11	104	35	12	82		420	2	10	0
69-83-217	31	8	74	22	15	51		440	2	5	0
69-83-218	41	12	88	33	18	73		540	2	10	0
69-83-219	25	10	74	25	12	55		440	2	5	0
69-83-220	21	11	76	20	11	41		360	2	5	0
69-83-221	47	8	86	29	13	55		420	6	5	0
69-83-222	35	10	73	23	14	48		500	2	5	0
69-83-223	34	11	81	26	15	60		480	2	10	0
69-83-224	23	8	65	22	11	55		360	2	5	0
69-83-225	51	11	88	31	16	68		500	2	5	0
69-83-226	23	10	78	23	12	50		450	2	30	0
69-83-227	61	11	103	43	16	70		440	5	5	0
69-83-228	50	12	90	32	14	80		340	2	25	0
69-83-229	56	11	101	29	13	72		380	3	5	0
69-83-230	28	8	56	23	9	36		230	2	15	0
69-83-231	32	8	60	16	9	43		235	2	15	0
69-83-232	27	7	71	24	13	40		360	2	15	0
69-83-233	21	8	55	17	10	37		330	2	40	0
69-83-234	35	9	57	23	13	40		370	2	5	0
69-83-235	77	9	94	39	16	68		340	2	5	0
69-83-236	31	11	74	27	15	50		500	2	610	0

	< 2 Microns									Heavies	
Sample Number	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Co (ppm)	Cr (ppm)	Fe (ppm)	Mn (ppm)	As (ppm)	Au (ppb)	V.G.
69-83-237	18	9	72	21	7	48		360	2	50	0
69-83-238	18	10	77	23	9	54		460	3	5	0
69-83-239	25	10	74	24	13	46		360	3	25	0
69-83-240	76	10	81	33	12	80		320	3	5	0
69-83-241	49	9	89	28	12	55		540	2	30	0
69-83-242	64	7	44	31	9	57		170	4	5	0
69-83-243	43	9	62	32	11	60		260	4	10	0
69-83-244	32	7	67	27	14	40		400	2	5	0
69-83-245	20	8	54	19	9	43		300	3	5	0
69-83-246	27	7	74	25	10	59		390	3	5	0
69-83-247	17	8	64	22	10	48		345	3	5	0
69-83-248	42	11	68	27	10	55		280	3	5	0
69-83-249	50	10	68	35	18	40		620	2	5	0
A-1	129	5	90	30	14	61	36500	327	27	20	0
A-2	82	5	90	41	23	62	45000	431	4	585	3
A-3	21	6	90	34	15	63	32650	383	3	70	0
A-4	24	8	92	34	14	60	35450	440	2	160	0
A-5	70	6	92	47	23	65	33600	279	6	10	0
A-6	21	7	76	25	12	51	29250	379	3	5	0
A-7	64	5	104	36	22	58	31700	474	2	5	0
A-8	96	7	125	44	25	88	41650	581	6	5	0
A-9	184	7	95	30	18	79	42000	289	6	5	0
A-10	75	7	99	33	18	63	36350	393	3	35	0
A-11	118	5	86	41	17	72	39800	300	10	25	0
A-12	147	5	82	63	21	55	34600	416	7	5	0
A-13	41	5	83	22	14	58	33900	390	3	5	0
A-14	32	8	101	35	16	71	36950	467	6	160	0
A-15	30	5	90	30	16	53	28850	372	3	5	0
A-16	85	7	91	37	19	64	36900	349	5	10	0
A-17	39	11	100	31	24	65	36650	443	5	5	1
A-18	43	6	78	25	15	61	41650	328	5	5	1
A-19	16	10	81	25	14	56	35550	235	5	5	0
A-20	29	10	90	27	17	66	36250	394	2	20	0
A-21	57	8	79	30	15	47	27300	347	2	10	1
A-22	62	11	74	28	20	65	53100	355	2	5	0
A-23 1	85	11	89	71	16	76	35350	313	2	5	0
A-23 2	90	13	93	76	17	82	28400	264	5	5	0
A-24	68	9	138	41	20	92	52000	548	2	5	0
A-25	71	15	105	56	25	89	40150	479	6	10	0
A-26	61	12	100	42	19	101	40650	366	7	25	0
A-27	136	11	116	46	26	93	48500	470	5	5	2
A-28	63	9	95	34	18	65	34950	384	4	5	0
A-29	29	9	102	26	14	64	34850	486	2	5	0
A-30	192	9	145	51	22	72	49500	411	2	5	0
A-31	51	16	99	43	25	86	38950	412	4	5	0
A-32	28	10	96	34	17	72	37300	467	3	5	0
A-33	37	11	101	31	19	70	35250	470	2	10	1
A-34	28	12	91	30	18	66	34800	529	2	5	1
A-35	51	12	98	36	19	57	34000	532	3	5	0
A-36	44	13	122	51	16	98	48500	534	4	75	0

Sample Number	< 2 Microns Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Co (ppm)	Cr (ppm)	Fe (ppm)	Mn (ppm)	As (ppm)	Heavies Au (ppb)	V.G.
A-37	42	12	110	46	18	94	49500	411	6	25	0
A-38	19	11	74	25	11	60	46500	343	5	150	0
A-39	38	13	108	39	21	78	39600	473	4	5	0
A-40	40	11	100	33	20	56	32100	492	4	5	0
A-41	49	7	125	33	17	73	46000	547	4	145	1
A-42	57	11	131	54	21	107	54500	531	7	5	0
A-43	35	14	113	49	21	101	49500	389	6	5	0
A-44	36	9	98	37	21	73	37950	363	7	5	0
A-45	42	14	101	39	22	67	34850	433	5	5	0
A-46	20	14	104	27	21	60	35850	403	3	5	0
A-47	40	7	117	34	18	72	35650	471	2	5	0
A-48	41	13	102	43	18	89	40650	398	5	5	0
A-49	28	10	99	41	14	82	34700	337	4	15	0
A-50	41	9	101	44	24	79	37500	450	3	5	0
A-51	69	12	105	44	26	66	34900	558	3	25	0
A-52	35	12	100	43	19	93	46500	315	5	70	0
A-53	41	7	106	37	20	62	33500	467	3	5	0
A-54	27	6	87	32	18	61	34100	332	3	45	0
A-55	23	13	86	30	15	68	39400	294	4	5	0
A-56	23	10	99	32	18	63	33950	343	5	5	0
A-57	38	32	99	45	21	78	35650	309	5	5	0
A-58	39	15	108	51	21	81	37550	431	4	5	0
A-59	33	14	98	34	20	53	30800	536	3	5	0
A-60	51	10	115	45	24	74	36800	468	5	5	0
A-61	45	4	101	36	18	56	29550	425	2	5	0
A-62	50	13	119	49	25	84	38450	432	5	10	0
A-63	44	11	106	54	24	96	47000	394	7	10	0
A-64	32	14	93	35	18	54	32000	362	2	5	0
A-65	43	5	89	33	16	55	31800	285	4	10	0
A-66	45	10	122	56	23	106	58000	358	6	15	0
A-67	37	6	95	39	19	62	32450	410	3	5	0
A-68	40	12	94	42	19	55	32350	413	11	60	0
A-69	73	12	86	44	14	47	30800	330	4	20	0
A-70	57	10	120	50	15	77	49500	462	4	5	1
A-71	41	12	93	29	18	49	29100	388	2	15	0
A-72	54	8	85	35	16	56	32950	390	5	10	0
A-73	34	8	86	34	20	45	29400	423	3	125	0
A-74	26	10	105	25	15	58	40900	397	4	60	0
A-75	51	9	121	42	22	77	50000	477	3	5	0
A-76	38	9	109	35	22	65	39200	463	2	10	0
A-77	48	8	126	52	21	83	50000	459	3	5	0
A-78	53	8	112	43	26	81	39400	532	4	5	0
A-79	51	7	152	38	19	73	53000	513	4	5	0
A-80	34	11	140	34	17	74	53500	457	4	135	0
A-81	21	7	112	31	13	68	38900	436	2	15	0
A-82	40	11	141	43	16	83	56000	411	5	15	0
A-83	44	7	103	34	18	58	37850	511	3	5	0
A-84	52	8	126	36	13	69	48000	396	5	5	0
A-85	46	11	113	47	19	101	55000	457	5	5	0
A-86	58	11	95	39	19	91	48500	300	5	20	0

Sample Number	< 2 Microns Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Co (ppm)	Cr (ppm)	Fe (ppm)	Mn (ppm)	As (ppm)	Heavies Au (ppb)	V.G.
A-87	26	6	100	23	13	57	37250	470	3	5	0
A-88	67	7	95	44	22	62	33050	385	6	5	0
A-89	46	11	88	34	22	68	36800	433	3	5	0
A-90	44	11	111	38	21	70	36150	466	2	5	0
A-91 1	3	4	22	2	2	8	9700	132	2	5	0
A-91 2	3	2	21	3	2	8	8750	121	2	5	0
A-92	47	8	121	37	21	84	52500	522	5	5	0
A-93	110	2	135	89	32	183	59000	535	35	10	0
A-94	79	2	157	56	25	129	69500	576	4	5	0
A-95	81	5	128	70	31	143	58500	588	6	10	0
A-96	62	4	107	61	34	114	40500	705	10	5	0
A-97	75	2	161	64	25	151	61000	548	4	5	0
A-98	48	12	140	47	20	118	61000	492	4	10	0
A-99	69	8	166	57	22	137	66000	546	5	5	0
A-100	58	9	130	58	27	124	52000	569	5	5	0
A-101	68	9	129	70	23	182	60500	462	8	130	0
A-102	83	8	129	63	27	139	58500	459	7	5	0
A-103	78	2	195	59	23	146	66500	520	3	5	0
A-104	34	11	98	39	17	92	62500	474	6	5	0
A-105 A	67	5	129	71	23	188	56000	538	5	15	0
A-105 B	68	8	104	61	23	166	70000	413	5	5	0
A-106	60	8	91	38	17	71	40800	340	4	5	0
A-107	97	8	168	74	23	166	70000	549	6	40	0
A-108	90	5	260	79	24	178	69000	632	4	5	0
A-109	91	6	147	79	31	185	60500	737	22	25	0
A-110	119	12	584	92	31	167	67000	700	7	5	0
A-111 A	56	5	165	57	23	140	67000	555	3	5	0
A-111 B	43	12	114	52	25	125	55000	357	4	5	0
A-112	62	8	142	55	25	133	63500	611	5	5	0
A-113	82	7	144	62	23	158	66000	486	7	5	0
A-114 A	62	6	153	57	23	143	64000	547	5	135	0
A-114 B	31	9	102	45	21	120	60000	302	7	5	0
A-115	57	9	119	55	25	144	63500	363	6	5	0
A-116	86	7	170	61	25	131	64000	544	5	5	0
A-117	65	10	142	58	27	123	60000	559	3	5	0
A-118	54	9	123	49	22	132	60500	473	4	5	0
A-119	78	9	167	59	25	134	63500	523	3	5	0
A-120	58	10	101	48	23	109	43500	464	3	5	0
A-121	75	9	168	62	21	143	66500	526	6	5	0
A-122	74	10	173	59	22	139	67500	516	5	15	0
A-123	70	9	176	61	26	144	63500	659	5	5	0
A-124	81	4	219	61	23	122	66000	574	5	5	0
A-125	59	4	137	61	21	114	58500	517	8	5	0
A-126	72	5	144	58	27	104	56500	633	4	5	0
A-127	89	3	138	68	26	112	58000	631	5	5	0
A-128	53	7	115	45	28	88	46500	588	3	5	0
A-129	69	17	129	50	28	113	54500	600	4	630	1
A-130	67	10	143	48	29	99	53000	651	4	5	0
A-131	63	11	148	45	22	97	56500	616	6	5	0
A-132	61	15	111	39	22	116	61500	471	5	15	1

	< 2 Microns									Heavies	
Sample Number	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Co (ppm)	Cr (ppm)	Fe (ppm)	Mn (ppm)	As (ppm)	Au (ppb)	V.G.
A-133	53	13	135	39	18	92	52000	606	4	5	0
A-134	53	9	110	42	24	104	54500	454	6	5	0
A-135	66	7	159	47	19	105	62500	553	3	5	0
A-136	66	12	128	44	23	112	64500	609	4	5	0
A-137	36	14	107	33	20	57	34450	523	2	5	0
A-138	31	7	88	43	22	74	38200	529	5	5	0
A-139	42	12	88	25	15	47	29350	517	2	10	0
A-140	46	11	88	42	20	60	35750	523	4	5	0
A-141	23	15	83	32	18	70	36250	433	7	10	0
A-142	46	13	97	42	21	72	37800	501	3	5	0
A-143	47	14	121	48	18	98	55500	422	7	15	0
A-144	20	8	92	35	13	74	39600	419	2	5	0
A-145	48	11	100	36	16	64	38450	430	2	140	0
A-146	42	8	119	50	19	100	50000	453	3	5	0
A-147	50	10	109	42	19	64	36550	513	3	5	0
A-148	41	16	111	54	25	100	49000	469	3	15	0
A-149	33	7	86	36	19	56	34200	472	2	5	0
A-150	31	8	99	26	18	57	33550	547	2	20	0
A-151	58	7	111	38	22	86	49500	458	2	15	0
A-152	49	10	117	45	20	92	52000	478	4	5	0
A-153	43	9	118	45	27	87	48500	563	3	5	0
A-154	34	7	106	35	20	75	41500	481	3	25	0
A-155	77	7	108	43	23	95	50500	415	3	40	0
A-156	63	10	116	42	24	84	51500	567	2	5	0
A-157	66	9	115	50	22	75	41150	426	2	5	0
A-158	67	11	117	43	23	83	51500	427	3	5	0
A-159	51	13	102	36	18	74	47500	440	5	10	0
A-160	55	14	118	45	19	72	50000	423	4	5	0
A-161	55	13	103	40	20	62	40050	503	4	5	0
C-1	29	6	97	36	16	59	31550	476	2	5	0
C-2	42	4	100	37	23	59	30650	418	2	5	0
C-3	21	10	87	30	14	62	31200	383	2	5	0
C-4	45	7	96	36	21	55	28600	513	2	5	0
C-5	34	10	101	30	18	57	33850	420	4	5	0
C-6	25	11	85	29	13	61	31550	397	2	5	0
C-7	39	9	78	26	14	47	26700	447	3	30	0
C-8	16	9	73	23	10	47	26100	400	2	5	0
C-9	34	5	85	35	15	46	26050	388	3	10	0
C-10	21	12	77	23	13	39	23300	429	2	5	0
C-11	45	9	98	36	19	52	27900	457	2	5	0
C-12	73	10	113	53	27	64	33250	543	2	5	0
C-13	29	10	104	29	16	48	27650	466	2	5	0
C-14	27	12	110	27	14	49	29200	466	3	15	1
C-15	34	29	81	30	23	52	29950	632	2	10	0
C-16	30	12	100	30	16	53	28350	473	2	5	0
C-17	38	15	74	28	20	44	25900	518	3	5	0
C-18	21	9	88	22	12	42	24950	410	2	95	0
C-19	53	10	111	44	17	64	39050	492	2	85	0
C-20	47	13	104	48	22	86	41650	348	5	20	0
C-21	29	12	110	28	15	51	30550	426	3	5	0

	< 2 Microns									Heavies	
Sample Number	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Co (ppm)	Cr (ppm)	Fe (ppm)	Mn (ppm)	As (ppm)	Au (ppb)	V.G.
C-22	29	6	93	28	14	51	26800	449	2	470	1
C-23	44	10	97	35	18	56	28300	470	2	5	0
C-24	42	12	112	35	15	57	29250	469	2	5	0
C-25	34	16	71	29	12	52	27500	290	2	5	0
C-26	30	15	112	38	15	72	35450	443	3	25	0
C-27	61	12	97	74	22	78	37250	389	4	5	0
C-28	46	8	91	37	16	59	34250	402	2	5	0
C-29	31	22	99	48	26	84	40300	828	5	40	0
C-30	39	9	95	34	17	50	28450	487	2	5	0
C-31	57	19	118	61	20	101	49000	458	7	15	0
C-32	25	10	90	25	11	42	24850	426	2	5	0
C-33	20	10	85	25	13	43	26350	504	2	35	0
C-34	26	7	87	28	11	49	27600	462	3	10	0
C-35	34	8	96	27	11	48	27100	453	2	5	0
C-36	34	8	89	32	20	58	30450	441	2	10	0
C-37	60	8	113	32	17	61	32900	463	2	5	0
C-38	31	9	91	24	15	47	27500	448	3	15	0
C-39	24	5	87	23	16	46	26300	488	3	10	0
C-40	39	7	103	34	19	56	31550	472	4	5	0
C-41	20	4	88	26	11	52	29100	456	3	5	0
C-42	58	5	112	35	19	58	30850	536	2	10	0
C-43	28	5	89	29	17	52	29650	513	4	10	0
C-44	49	6	100	39	21	61	33400	472	4	5	0
C-45	28	2	79	26	16	44	27400	406	2	5	0
C-46	60	8	101	41	19	60	31500	501	3	20	0
C-47	32	5	127	36	14	70	43000	435	5	5	0
C-48	36	5	88	26	17	48	28900	507	2	10	0
C-49	43	6	117	36	16	59	36600	472	2	40	0
C-50	24	6	91	30	19	54	32050	521	2	10	0
C-51	33	7	97	42	22	72	36450	387	4	5	0
C-52	65	6	126	49	17	85	47500	460	5	40	0
C-53	32	6	100	37	21	64	33250	497	5	10	0
C-54	25	8	84	28	15	49	26500	444	3	5	0
C-55	28	4	92	27	18	52	31850	526	3	5	0
C-56	32	6	98	30	17	68	36850	396	4	20	0
C-57	43	5	89	31	23	60	31150	506	5	5	0
C-58	41	5	85	35	18	67	31150	368	4	10	0
C-59	41	5	102	35	20	55	31650	517	3	10	0
C-60	26	6	98	37	16	71	33550	440	4	15	0
C-61	52	9	107	34	19	54	31700	528	3	5	0
C-62	45	11	109	33	17	53	31550	491	3	5	0
C-63	113	9	117	53	11	52	32100	339	7	5	0
C-64	260	12	131	49	9	50	27650	330	3	10	0
C-65	41	7	89	42	16	53	32500	327	2	15	0
C-66	34	10	107	49	21	97	46000	373	4	10	0
C-67	70	6	152	53	28	98	50500	507	3	5	0
C-68	61	6	148	48	20	105	54000	476	4	15	0
C-69	43	7	114	39	19	96	50000	481	3	5	0
C-70	90	10	169	55	21	115	59500	510	8	5	1
C-71	56	14	123	46	20	97	42500	432	3	5	0

	< 2 Microns									Heavies	
Sample Number	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Co (ppm)	Cr (ppm)	Fe (ppm)	Mn (ppm)	As (ppm)	Au (ppb)	V.G.
C-72	56	10	167	45	22	99	58000	499	4	5	0
C-73	71	9	173	52	23	113	59000	519	3	5	0
C-74	63	10	138	54	23	133	54500	523	3	5	0
C-75	62	12	130	56	24	113	47500	408	6	5	0
C-76	62	17	126	55	25	97	47500	624	12	5	0
C-77	57	9	106	43	27	102	37500	311	5	35	0
C-78	65	9	148	43	19	105	54500	403	3	90	0
C-79	22	12	57	22	16	33	22000	344	2	5	0
C-80	51	6	125	42	21	104	51500	395	4	10	0
C-81	45	12	133	47	22	108	49500	509	3	5	0
C-82	60	13	148	42	22	111	55500	423	4	5	0
C-83	60	14	157	44	21	100	57500	473	2	5	0
C-84	50	18	108	54	28	97	54500	894	8	5	0
C-85	65	14	133	55	21	92	52000	420	4	5	0
C-86	42	11	119	32	23	72	46500	559	3	5	0
C-87	48	8	109	37	19	92	50000	322	5	5	0
C-88	57	9	149	39	25	82	54500	684	4	5	0
C-89	26	9	111	37	20	85	46500	307	4	5	0
C-90	60	11	117	48	22	89	46000	352	4	10	0
C-91	49	11	98	31	14	69	39500	316	3	5	0
C-92	93	14	135	46	25	108	55000	389	6	30	0
C-93	48	14	165	35	20	80	54000	542	4	5	0
C-94	127	11	130	39	23	81	48000	522	4	5	0
C-95	65	6	129	39	21	75	47500	585	4	5	0
C-96	41	4	111	34	19	71	41500	446	3	15	0
C-97	58	4	146	55	20	116	54500	416	6	5	0
C-98	73	4	185	58	20	124	62500	501	4	5	0
C-99	28	5	114	45	17	95	42500	358	4	5	0
C-100	48	10	147	55	20	112	54000	466	5	5	0
C-101	55	7	161	56	21	123	58500	467	5	5	0
C-102	66	5	189	48	20	118	60000	495	4	15	0
C-103	76	6	205	63	21	141	64500	485	5	5	0
C-104	60	7	129	39	21	102	51500	557	3	5	0
C-105	106	7	151	66	27	144	57000	539	5	5	0
C-106	61	8	136	45	22	121	60000	465	5	5	0
C-107	61	4	163	51	20	126	57500	507	5	5	0
C-108	83	2	178	58	20	145	57000	472	6	5	0
C-109	58	8	163	48	21	105	55000	443	5	5	0
C-110	64	8	183	51	22	124	61500	537	7	5	0
C-111	55	7	142	46	20	111	53500	532	4	255	0
C-112	70	7	189	56	22	127	61000	623	2	5	0
C-113	47	10	124	39	20	92	46500	470	5	10	0
C-114	100	9	148	70	26	142	55000	450	8	15	0
C-115	26	8	109	44	18	92	40500	424	4	5	0
C-116	57	7	130	45	20	112	50500	498	5	10	0
C-117	53	7	112	47	23	101	44500	527	7	5	0
C-118	63	6	161	50	22	117	55500	562	4	5	0
C-119	73	8	190	58	20	128	60000	525	6	5	0
C-120	39	7	144	44	19	111	52500	499	3	115	0
C-121	73	6	198	58	20	131	67500	501	6	235	0

	< 2 Microns									Heavies	
Sample Number	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Co (ppm)	Cr (ppm)	Fe (ppm)	Mn (ppm)	As (ppm)	Au (ppb)	V.G.
C-122	63	7	169	52	20	129	58500	529	5	10	0
C-123	63	6	164	49	19	116	59500	544	5	5	0
C-124	33	10	127	49	17	107	53000	376	5	5	0
C-125	48	5	158	48	17	111	38000	500	4	5	0
C-126	72	4	187	57	17	117	63000	510	4	5	0
C-127	36	7	104	30	18	71	43500	495	3	30	0
C-128	35	10	100	42	14	91	38000	367	4	5	0
C-129	75	12	118	47	23	91	55500	426	5	5	0
C-130	78	12	98	53	23	87	52000	355	8	5	0
C-131	88	6	125	49	28	80	46500	548	5	5	0
C-132	90	7	201	52	14	94	63000	282	31	10	3
C-133	53	5	278	52	12	70	39500	346	5	5	0
C-134	83	12	87	28	9	80	66000	214	25	5	0
C-135	132	8	153	43	15	71	40500	380	4	5	0
C-136	37	9	114	33	18	69	38500	420	4	10	0
C-137	63	8	197	51	19	111	57500	495	4	10	0
C-138	47	8	128	44	18	92	48500	482	4	5	0
C-139	49	8	102	52	18	99	46500	544	4	15	0
C-140	85	12	148	66	17	116	59000	429	9	15	0
C-141	68	8	134	53	19	126	57500	483	6	25	0
C-142	76	8	136	55	18	124	56000	484	6	20	0
C-143	42	6	112	44	18	101	45500	534	4	5	0
C-144	58	7	173	57	22	124	63000	526	4	15	0
C-145	34	7	102	41	21	84	41500	458	5	25	0
C-146	49	9	121	53	19	112	51000	429	6	5	0
C-147	58	6	153	46	21	110	54000	462	3	5	0
C-148	79	4	168	49	18	110	57000	516	4	20	0
C-149	58	7	150	46	22	108	56500	490	5	10	0
C-150	48	6	124	38	20	89	45000	507	4	5	0
C-151	46	9	126	45	26	89	43500	594	4	5	0
C-152	234	4	191	75	34	92	44500	435	4	5	0
C-153	55	7	158	50	19	111	61000	456	4	115	1
C-154	38	8	109	38	20	100	48500	442	3	5	0
C-155	47	6	116	41	21	91	46000	439	2	5	0
C-156	62	9	123	42	22	96	48500	418	2	5	0
C-157	62	9	179	48	23	106	59000	493	4	5	0
C-158	41	10	110	38	21	75	37000	458	3	5	0
C-159	61	7	182	48	17	109	60000	482	3	5	0
C-160	40	11	149	36	24	93	53500	585	4	255	0
C-161	43	7	113	38	19	96	51000	552	2	5	0
C-162	41	7	116	36	19	97	50500	559	2	5	0
C-163	69	9	192	57	18	119	63000	547	4	15	0
C-164	63	9	146	48	21	107	56000	555	3	30	0
C-165	82	8	172	55	19	129	66000	479	3	5	0
C-166	44	7	103	37	21	92	50000	503	3	5	0
C-167	78	6	109	45	18	85	49000	393	3	5	0
C-168	60	9	114	42	21	83	46500	408	3	5	0
C-169	42	15	98	48	15	94	48000	479	4	5	0
C-170	50	7	101	44	22	72	36500	585	3	5	0
C-171	51	6	102	43	16	78	38500	349	2	5	0

	< 2 Microns									Heavies	
Sample Number	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Co (ppm)	Cr (ppm)	Fe (ppm)	Mn (ppm)	As (ppm)	Au (ppb)	V.G.
C-172	43	5	106	43	19	76	40000	595	3	140	0
C-173	66	7	145	45	18	84	51500	441	5	5	0
C-174	62	7	99	37	15	84	47500	289	2	65	0
C-175	55	5	118	41	23	78	42000	540	2	5	0
C-176	47	11	123	44	20	86	52000	460	4	5	0
C-177	78	9	112	35	17	79	52000	381	4	5	0
D-1	38	11	91	31	17	63	36550	451	2	5	0
D-2	105	12	152	44	18	80	58000	539	5	5	0
D-3	46	10	69	25	16	36	31300	502	3	5	0
D-4	81	15	99	42	26	67	39500	562	4	25	0
D-5	56	13	98	39	22	57	33850	500	3	10	0
D-6	67	10	104	40	23	64	36200	525	4	5	0
D-7	49	9	113	36	17	71	38450	478	3	5	0
D-8	100	10	111	45	19	72	48000	574	3	5	0
D-9	67	12	109	47	20	72	40950	406	3	5	0
D-10	58	10	106	42	19	59	36450	532	4	5	0
D-11	59	7	81	28	12	58	42000	325	3	5	0
D-12	34	10	83	29	13	45	29300	386	3	5	0
D-13	66	6	84	24	11	55	39000	347	3	15	0
D-14	40	8	95	38	18	64	39200	435	3	5	0
D-15	33	12	103	30	14	58	32550	517	5	5	0
D-16	41	10	66	21	11	60	38000	220	3	10	0
D-17	28	9	88	27	21	61	42050	515	12	5	0
D-18	171	6	105	45	26	100	48000	341	3	5	0
D-19	17	8	88	25	15	59	35850	313	4	5	1
D-20	21	10	88	24	15	57	37900	350	3	15	0
D-21	27	7	92	34	18	71	44500	409	4	5	0
D-22	27	8	78	27	16	43	32200	395	3	5	0
D-23	44	9	65	24	13	39	25900	253	3	5	0
D-24	38	14	101	53	22	89	41300	486	6	5	0
D-25	38	8	66	23	13	47	30600	224	5	5	0
D-26	40	13	100	48	16	94	41000	420	7	30	0
D-27	84	10	119	45	22	105	55000	447	6	5	0
D-28	35	7	76	26	9	52	35900	324	3	5	0
D-29	48	8	99	37	15	54	29950	395	2	5	0
D-30	38	11	85	34	11	57	36500	280	3	5	0
D-31	26	8	119	34	14	60	47000	405	6	5	0
D-32	29	9	102	32	17	57	32350	460	3	165	0
D-33	48	5	104	39	22	59	32750	512	3	5	0
D-34	46	6	89	41	19	56	37300	441	3	5	0
D-35 A	27	8	96	27	12	45	29400	412	3	240	1
D-35 B	49	9	105	38	20	64	32750	493	3	5	0
D-36	28	11	92	35	14	58	30700	367	2	125	0
D-37	46	15	100	38	14	67	41000	352	5	40	0
D-38	27	12	87	35	14	63	38900	270	5	5	0
D-39	24	10	100	26	9	49	29550	415	3	605	1
D-40	31	13	95	28	12	53	30250	397	3	5	0
D-41	28	17	99	28	9	48	30550	418	7	5	0
D-42	21	9	98	25	11	49	29400	422	5	25	0
D-43	35	7	101	31	15	56	32500	501	4	15	0

	< 2 Microns									Heavies	
Sample Number	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Co (ppm)	Cr (ppm)	Fe (ppm)	Mn (ppm)	As (ppm)	Au (ppb)	V.G.
D-44	38	7	83	37	12	51	31850	336	4	5	0
D-45	41	8	101	37	18	55	31400	422	4	5	0
D-46	42	8	102	30	14	72	37700	348	4	5	0
D-47	41	26	99	35	20	63	35500	406	5	15	0
D-48	52	5	73	29	13	64	41350	248	4	5	0
D-49	29	6	84	28	14	42	27350	374	3	5	0
D-50	35	8	76	25	14	61	43500	243	4	5	0
D-51 A	26	10	88	29	15	51	29600	552	3	10	0
D-51 B	27	13	91	360	17	54	30200	569	3	5	0
D-52	33	15	98	43	19	98	52000	361	5	5	0
D-53	25	9	100	28	13	52	30350	484	2	5	0
D-54	21	15	99	33	18	69	39050	310	6	25	0
D-55	25	10	89	24	14	51	29650	408	5	5	0
D-56	18	15	97	30	17	62	34200	349	4	25	0
D-57	41	8	97	36	16	64	36050	381	5	220	0
D-58	43	12	99	40	18	65	34450	392	6	5	0
D-59	29	15	116	35	20	70	41300	556	3	15	0
D-60	40	13	97	36	20	57	31150	498	4	5	0
D-61	34	12	98	33	23	59	35200	645	5	5	0
D-62	36	12	86	42	19	53	29900	448	6	5	0
D-63	52	18	99	42	21	50	38400	613	6	5	0
D-64	51	13	90	48	19	68	41800	323	7	5	0
D-65	52	11	85	37	10	70	42050	304	5	5	0
D-66	52	8	83	35	10	73	51000	281	9	10	0
D-67	57	20	103	37	17	61	40700	445	7	5	0
D-68	35	11	84	31	12	64	41550	336	8	5	0
D-69	26	9	93	35	15	51	33650	405	5	20	0
D-70	62	27	95	61	25	60	34250	326	8	5	0
D-71	54	17	94	39	19	53	33600	340	5	135	0
D-72	28	11	118	36	19	62	39850	506	5	5	0
D-73	57	26	94	97	27	68	38150	368	9	5	0
D-74	23	12	84	31	17	66	37300	403	4	5	0
D-75	34	14	107	33	21	68	41850	528	7	5	0
D-76	56	10	93	36	17	71	38950	307	8	5	0
D-77	40	21	94	35	27	61	36000	685	7	5	0
D-78	44	8	105	35	25	66	36200	560	5	5	0
D-79	40	10	112	36	20	98	50500	572	8	10	0
D-80	27	9	103	37	20	99	51500	456	6	10	0
D-81	43	9	101	40	22	103	55500	362	6	5	0
D-82	48	8	104	39	21	100	61000	406	6	5	0
D-83	39	6	103	32	18	90	55500	595	3	5	0
D-84	60	7	138	42	26	123	71500	628	8	30	0
D-85	41	6	113	38	17	102	63000	554	4	15	0
D-86	30	11	99	33	24	92	53500	485	4	5	0
D-87	37	9	99	35	17	76	40800	492	3	5	0
D-88	46	10	104	37	27	108	56500	641	4	5	0
D-89	31	6	110	34	23	97	52000	550	3	95	0
D-90	21	7	102	36	25	100	50000	369	4	5	0
D-91	37	11	120	48	25	111	53500	506	5	5	0
D-92	35	13	107	47	25	108	57000	392	6	5	0

	< 2 Microns									Heavies	
Sample Number	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Co (ppm)	Cr (ppm)	Fe (ppm)	Mn (ppm)	As (ppm)	Au (ppb)	V.G.
D-93	68	7	179	62	20	125	69500	505	6	5	0
D-94	37	6	119	39	25	95	55000	651	5	5	0
D-95	40	6	123	47	19	107	61500	478	5	5	0
D-96	107	3	99	37	17	93	56000	355	7	15	0
D-97	86	4	202	65	22	127	75500	590	4	5	0
D-98	39	3	107	40	24	101	52000	502	3	5	0
D-99	50	7	132	42	20	103	58000	556	4	5	0
D-100	55	4	141	39	21	77	53500	613	8	5	0
D-101	21	4	92	31	19	70	46500	474	3	5	0
D-102	48	8	88	36	17	65	42500	356	4	5	0
D-103	75	10	101	41	21	73	44000	464	13	5	0
D-104	44	10	85	32	16	65	48000	341	8	5	0
D-105	62	10	99	40	19	72	41750	391	8	5	0
D-106	53	8	89	36	17	65	44500	382	4	5	0
D-107	46	9	101	35	19	67	42500	434	2	45	0
D-108	76	9	110	46	28	78	46500	679	11	5	0
D-109	46	10	88	37	17	80	46000	303	8	5	0
D-110	51	9	112	43	23	81	48000	536	4	5	0
D-111	60	9	111	43	24	84	47000	482	13	5	0
D-112	48	8	107	39	23	115	61000	408	5	5	0
D-113	37	5	89	36	16	87	43000	310	29	15	0
D-114	45	13	103	50	24	106	54000	379	6	5	0
D-115	49	7	85	36	15	72	46000	405	12	5	0
D-116	39	9	101	42	19	90	56000	307	6	5	0
D-117	57	4	116	48	21	85	39800	458	3	5	0
D-118	45	14	94	33	14	79	38100	289	47	5	0
D-119	38	6	111	41	21	84	41950	449	4	5	0
D-120	30	9	96	39	19	95	41950	396	14	5	0
D-121	41	7	92	32	15	78	40150	401	4	5	0
D-122	46	8	129	44	22	94	53500	544	3	5	0
D-123	46	11	123	42	22	90	52500	548	4	5	0
D-124	50	9	134	39	20	94	58000	622	4	5	0
D-125	254	13	107	123	22	123	58000	371	5	5	0
D-126	53	7	119	42	22	105	49500	427	4	5	0
D-127	57	9	134	45	23	122	63500	464	4	5	0
D-128	63	7	153	43	24	105	57500	633	4	5	0
D-129	65	7	159	48	21	113	65000	591	4	30	1
D-130	39	6	110	50	27	102	47000	584	5	95	0
D-131	32	9	91	34	18	82	47000	373	3	5	0
D-132	28	8	106	34	21	91	51500	564	2	5	0
Eagle-1	75	11	179	48	20	102	57500	521	7	15	0
Eagle-2	44	13	101	40	25	74	42500	515	7	10	0
Eagle-3	62	10	172	51	19	95	58000	478	10	5	0
Eagle-4	24	11	94	37	16	70	38500	360	5	5	0
Eagle-5	74	16	158	64	22	115	64000	472	12	5	0
Eagle-6	38	14	100	45	18	101	46500	310	5	10	0
Eagle-7	34	10	104	32	16	85	45500	475	3	5	0
Eagle-8	49	13	91	38	18	93	46000	384	7	5	0
Eagle-9	44	14	105	41	22	91	45500	458	6	5	0
Eagle-10	50	10	133	40	18	88	50000	476	5	5	0

	< 2 Microns									Heavies	
Sample Number	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Co (ppm)	Cr (ppm)	Fe (ppm)	Mn (ppm)	As (ppm)	Au (ppb)	V.G.
Eagle-11	29	12	92	47	18	92	47000	368	7	10	0
Eagle-12	47	6	96	33	18	82	47500	427	4	5	0
Eagle-13	34	7	104	33	19	76	45500	481	6	60	0
Eagle-14	38	13	97	43	17	89	41500	334	14	5	0
Eagle-15	70	9	102	41	25	88	53000	453	6	5	0
Eagle-16	52	6	130	43	22	104	57000	400	5	5	0
Eagle-17	191	9	147	43	25	93	55000	585	6	5	0
Eagle-18	79	8	94	41	19	89	49000	251	14	5	0
Eagle-19	94	7	115	40	18	81	49500	319	3	5	0
Eagle-20	52	7	82	35	14	77	43500	217	5	5	0
Eagle-21	65	10	158	49	23	106	59500	599	5	5	0
Eagle-22	39	3	82	27	12	72	46000	256	4	5	0
Eagle-23	27	12	86	38	16	86	43500	274	5	5	0
Eagle-24	51	9	104	43	21	78	41000	200	6	10	0
Eagle-25	45	7	105	42	22	78	41500	451	3	45	0
Eagle-26	37	13	103	49	21	112	51500	312	6	5	0
Eagle-27	58	7	96	34	21	78	44000	368	4	110	0
Eagle-28	39	7	91	34	18	79	45500	354	3	5	0
Eagle-29	31	9	94	36	21	89	45000	302	4	5	0
Eagle-30	34	8	87	28	17	66	36500	419	3	5	0
Eagle-31	36	4	102	42	17	90	43500	424	3	5	0
Eagle-32	27	11	90	37	18	81	41000	370	4	5	0
Eagle-33	52	6	133	48	17	97	50500	430	5	5	0
Eagle-34	37	7	112	43	20	93	43000	479	4	5	0
Eagle-35	46	8	115	47	26	104	51000	465	4	5	0
Eagle-36	53	7	103	36	22	90	45000	357	5	5	0
Eagle-37	29	7	101	38	20	83	45000	472	3	5	1
Eagle-38	82	10	121	48	21	115	53500	368	4	20	0
Eagle-39	62	10	118	46	25	100	49500	463	3	5	0
Eagle-40	60	8	110	43	19	102	58000	429	4	5	0
Eagle-41	58	6	114	40	22	103	51000	458	4	10	0
Eagle-42	37	3	87	30	12	103	51500	219	3	5	0
Eagle-43	51	6	126	50	28	94	47500	536	2	5	0
Eagle-44	113	6	125	45	22	115	53500	342	4	5	0
Eagle-45	58	4	118	42	21	93	47500	404	4	5	0
Eagle-46	75	9	121	45	26	91	45000	461	5	5	0
Eagle-47	53	8	106	40	21	80	45500	458	2	5	0
Eagle-48	63	8	119	44	23	100	52500	477	4	15	0
Eagle-49	73	6	98	40	22	97	50500	345	6	5	0
Eagle-50	30	7	93	27	20	69	38000	481	4	5	0
Eagle-51	45	7	109	43	22	91	44500	431	5	40	0
Eagle-52	54	9	120	42	20	96	53500	435	4	100	1
Eagle-53	37	7	103	36	20	94	48500	562	40	5	0
Eagle-54	61	9	121	48	25	114	57000	412	4	5	0
Eagle-55	60	8	100	31	16	87	50500	378	4	5	0
Eagle-56	30	13	87	41	15	90	40500	394	5	5	0
Eagle-57	125	15	96	78	37	93	30500	754	12	5	0
Eagle-58	100	5	95	32	16	96	43000	330	2	15	0
Eagle-59	75	10	132	59	23	114	54000	428	4	5	0
Eagle-60	289	6	119	540	55	480	60500	486	19	5	0

	< 2 Microns									Heavies	
Sample Number	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Co (ppm)	Cr (ppm)	Fe (ppm)	Mn (ppm)	As (ppm)	Au (ppb)	V.G.
Eagle-61	39	7	103	34	20	77	42000	498	4	5	0
Eagle-62	75	9	118	39	19	106	52500	358	4	5	0
Eagle-63	168	11	97	150	28	149	52500	315	9	5	0
Eagle-64	95	10	100	48	20	102	49500	289	9	480	7
Eagle-65	57	18	83	37	20	72	33080	600	10	5	0
Eagle-66	36	6	103	30	19	68	34450	419	3	165	0
Eagle-67	46	4	104	34	17	94	50000	332	3	5	0
Eagle-68	31	8	97	36	20	77	39500	407	5	5	0
Eagle-69	60	7	100	44	20	86	38000	378	5	50	0
Eagle-70	36	9	117	43	23	92	48000	527	3	5	0
Eagle-71	35	15	105	43	18	81	33150	464	5	10	0
Eagle-72	47	23	102	38	19	94	51000	297	5	30	0
Eagle-73	109	5	119	82	25	141	51000	340	8	5	0
Eagle-74	80	8	146	50	24	97	52000	434	6	5	0
Eagle-75	49	8	104	30	14	88	42000	281	4	5	0
Eagle-76	74	15	123	63	28	107	49500	487	7	5	0
Eagle-77	42	9	105	31	17	90	41600	282	8	5	0
Eagle-78	43	9	112	61	20	87	37650	372	5	5	0
Eagle-79	60	10	157	51	22	115	60000	509	5	5	0
Eagle-80	87	8	100	30	16	89	45500	296	5	5	0
Eagle-81	56	6	103	40	18	100	53000	290	11	5	0
Eagle-83	80	8	125	49	26	83	36400	520	3	5	0
Eagle-84	83	8	122	41	21	100	49500	342	4	5	0
Eagle-85	46	7	94	29	14	75	37950	273	4	10	0
Eagle-86	46	10	110	35	18	77	37450	430	4	5	0
Eagle-87	171	10	103	40	20	90	49500	310	7	5	0
Eagle-88	45	8	115	39	18	75	41400	445	2	5	0
Eagle-89	84	10	78	20	8	68	30700	168	3	40	0
Eagle-90	73	9	47	13	5	61	21050	98	3	5	0
Nickel-1	188	12	143	101	41	236	54500	644	5	5	0
Nickel-2	85	10	98	45	23	94	47500	362	7	265	0
Nickel-3	72	5	104	28	13	76	54000	258	12	25	0
Nickel-4	126	9	110	57	25	146	49500	380	9	5	0
Nickel-5	58	13	124	40	17	75	35500	457	4	5	0
Nickel-6	104	4	105	111	27	360	50500	378	10	5	0
Nickel-7	35	10	111	48	18	94	39000	396	5	5	0
Nickel-8	186	4	89	66	18	217	45500	271	14	5	0
Nickel-9	54	9	107	53	23	111	48500	351	7	5	0
Nickel-10	82	8	102	50	23	100	43500	479	5	5	0
Nickel-11	132	4	69	34	12	92	39000	256	12	10	0
Nickel-12	131	5	95	63	23	156	52000	312	12	5	0
Nickel-13	172	3	114	118	33	304	56000	501	7	10	0
Nickel-14	133	9	102	63	20	107	44500	361	6	5	0
Nickel-15	73	13	114	54	22	108	48500	416	6	10	0
Nickel-16	213	5	119	145	37	372	60000	545	12	5	0
Nickel-17	550	2	102	209	48	366	60500	411	43	5	0
Nickel-18	172	3	91	84	21	263	63000	347	18	5	0
Nickel-19	279	2	111	115	35	195	53000	393	16	5	0
Nickel-20	144	2	69	71	16	206	50500	279	12	5	0
Nickel-21	203	6	100	145	35	399	64000	432	19	10	0

	< 2 Microns									Heavies	
Sample Number	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Co (ppm)	Cr (ppm)	Fe (ppm)	Mn (ppm)	As (ppm)	Au (ppb)	V.G.
Nickel-22	349	2	149	145	45	323	66000	663	69	5	0
Nickel-23	175	5	116	57	29	97	47000	515	6	5	0
Nickel-24	169	2	94	80	24	209	59000	365	20	5	0
Nickel-25	127	2	93	73	26	151	53000	347	15	5	0
Nickel-26	241	3	126	106	36	220	53000	550	8	5	0
Nickel-27	74	10	121	67	29	154	49500	469	9	15	0
Nickel-28	113	8	119	65	28	133	54500	435	14	5	0
Nickel-29	222	4	108	103	36	296	58500	531	15	5	0
Nickel-30	207	5	106	96	30	203	54000	415	25	5	0
Nickel-31	150	6	92	64	22	163	53500	317	12	5	0
Nickel-32	233	7	95	95	25	248	45500	317	12	5	0
Nickel-33	386	5	127	118	42	237	61500	686	15	15	0
Nickel-34	155	9	92	54	23	126	46500	283	8	5	0
Nickel-35	156	10	100	73	31	156	53000	453	13	5	0
Nickel-36	315	2	85	119	25	328	59000	320	15	140	0
Nickel-37	266	2	108	117	41	306	65000	600	25	5	0
Nickel-38	215	2	112	77	33	188	60500	522	9	5	0
Nickel-39	143	4	97	74	25	183	48000	284	8	60	0
Nickel-40	99	13	96	59	25	124	58500	313	18	5	0
Nickel-41	88	5	91	54	20	159	64500	335	15	10	0
Nickel-42	217	2	97	75	27	199	55000	410	15	30	0
Nickel-43	246	2	88	59	19	159	45000	299	13	25	0
Nickel-44	385	2	116	189	41	372	62000	634	98	5	0
Nickel-45	100	9	98	62	22	169	53500	296	7	25	0
Nickel-46	206	7	127	86	37	151	60000	720	16	10	0
Nickel-47	101	6	107	61	20	141	54500	398	6	30	0
Nickel-48	158	3	81	56	15	153	44000	313	7	25	0
Nickel-49	53	10	93	52	20	116	43000	375	5	15	0
Nickel-50	278	2	95	113	31	149	46500	596	10	5	0

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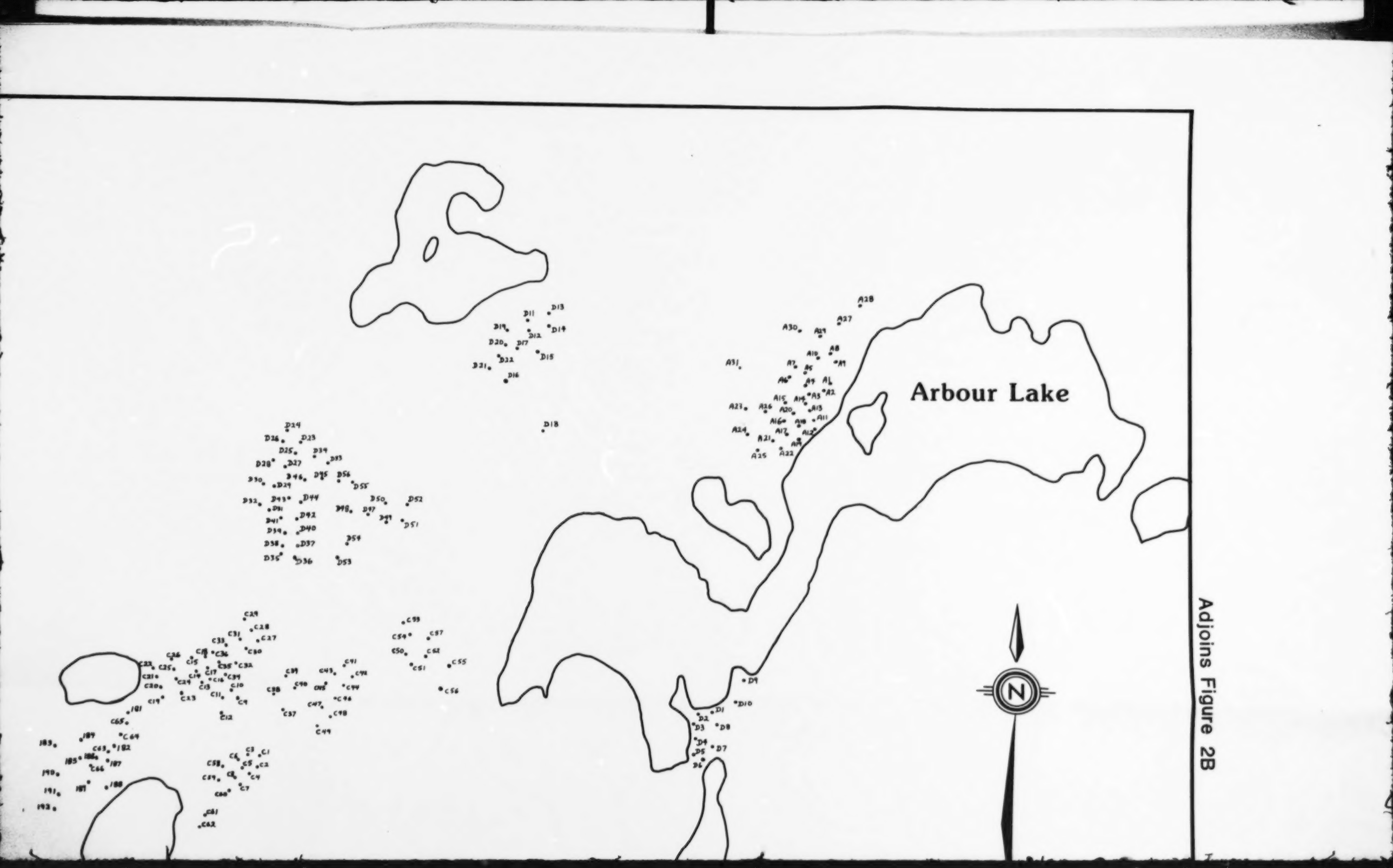
Arbour Lake
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Adjoins Figure 2B

Minton Lake

TIL

Sa

Series A: 1 – 31

Series C: 1 – 66

Series D: 1 –

Adjoins Figure 2B

FIGURE 2A

TILL SAMPLE LOCATIONS

Sample locations on this sheet:

Series A: 1 – 31	1983:	1 – 9, 56 – 249 (except 160,
Series C: 1 – 66		162, 163, 168, 202 – 205)
Series D: 1 – 54	1982:	82–1, 2, 3, 4, 33, 34

Sa

Series A: 1 – 31

Series C: 1 – 66

Series D: 1 – 5

391

Keewatin River

Hughes River

Figure 2A

Series A: 1 – 31

Series C: 1 – 66

Series D: 1 – 54

1983: 1 – 9, 56 – 249 (except 160, 162, 163, 168, 202 – 205)

1982: 82–1, 2, 3, 4, 33, 34

0 1 km

Eagle Lake

N

Adjoins Figure 2A

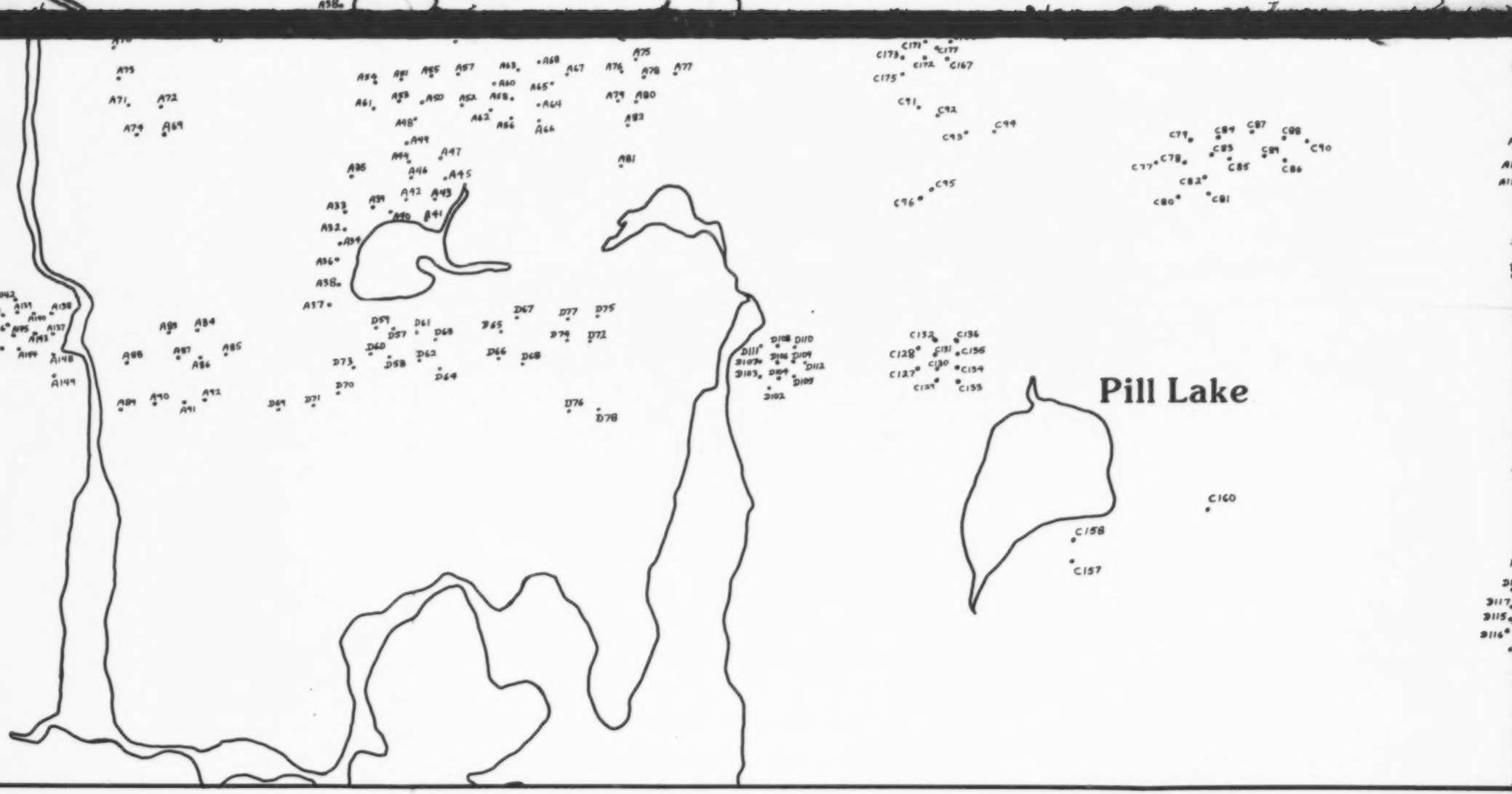


FIGURE 2B

TILL SAMPLE LOCATIONS

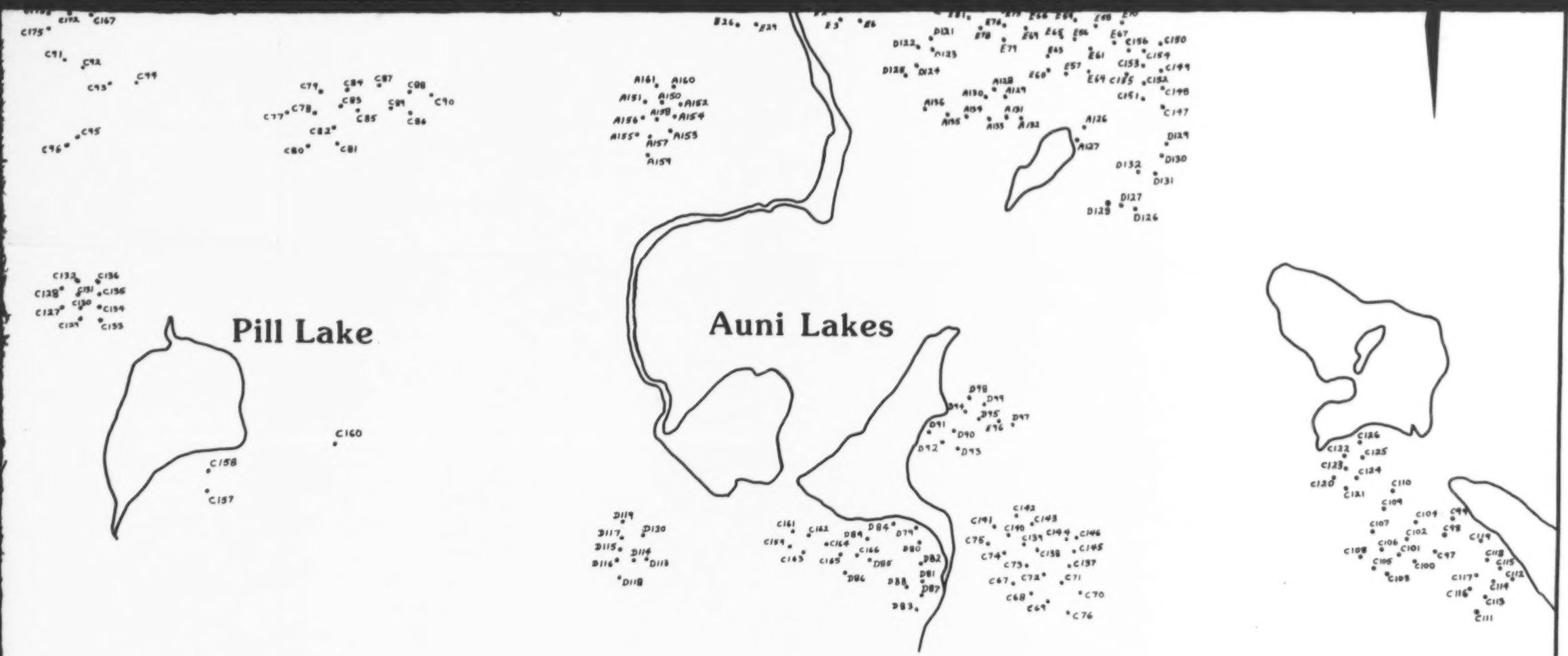
Sample locations on this sheet:

Series A: 32 - 161

Series C: 67 - 177

Series D: 55 - 132

Series E: 1 - 90



mple locations on this sheet:

A: 32 – 161 Series D: 55 – 132

C: 67 – 177 Series E: 1 – 90

0 1 km